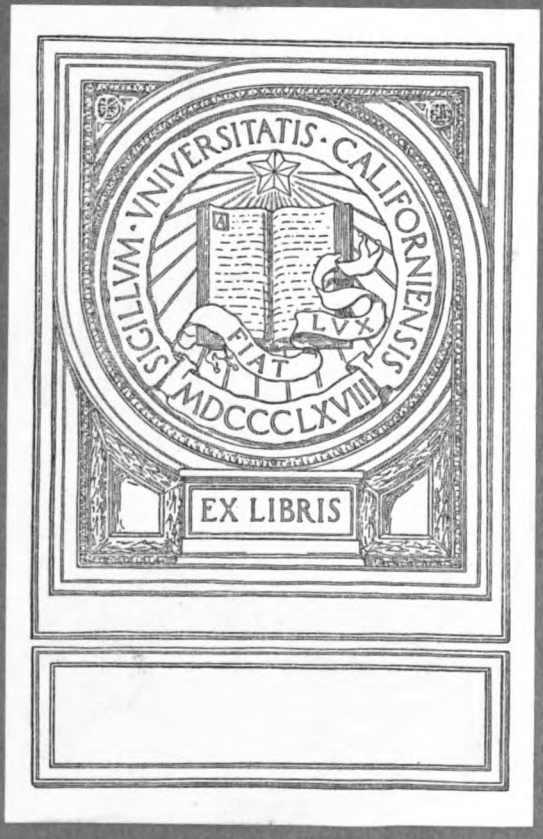
By courtesy of the Outing Publishing Co.

Harper's camping and scouting

George Bird Grinnell, Eugene La Forrest Swan

Digitized by Google



Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

UNIV. OF CALIFORNIA

By courtesy of the Outing Publishing Co.

AN ADIRONDACK CARRY

Digitized by Google

HARPER'S
CAMPING AND SCOUTING

AN OUTDOOR GUIDE FOR AMERICAN BOYS

CONSULTING EDITORS

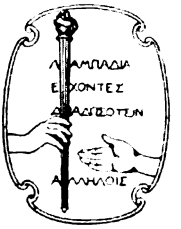
GEORGE BIRD GRINNELL

EDITOR "FOREST AND STREAM"

DR. EUGENE L. SWAN

DIRECTOR PINE ISLAND CAMP, ETC.

ILLUSTRATED



HARPER & BROTHERS PUBLISHERS

NEW YORK AND LONDON

MCMXI

Digitized by Google

SK611
G7

Harper's Practical Books for Boys

A SERIES OF NEW HANDY-BOOKS FOR BOYS

HARPER'S CAMPING AND SCOUTING
An Outdoor Book for American Boys. Consulting Editors, George Bird Grinnell, Editor "Forest and Stream"; Dr. Eugene L. Swan, Director Pine Island Camp, etc.

HARPER'S ELECTRICITY BOOK FOR BOYS
Written and Illustrated by Joseph H. Adams. With a General Chapter by Joseph B. Baker, and a Dictionary ot Electrical Terms.

HARPER'S HOW TO UNDERSTAND ELECTRICAL WORK
By William H. Onken, Jr., and Joseph B. Baker.

HARPER'S OUTDOOR BOOK FOR BOYS
By Joseph H. Adams and others

HARPER'S INDOOR BOOK FOR BOYS
By Joseph H. Adams and others.

HARPER'S MACHINERY BOOK FOR BOYS
By Joseph H. Adams.

HARPER'S HANDY BOOK FOR GIRLS
Edited by Anna Parmly Paret.

THE STORY OF GREAT INVENTIONS
By Elmer Ellsworth Burns.

Each volume fully illustrated from photographs, drawings, and diagrams. Uniform in size and appearance. Crown 8vo, Cloth, $1.75 each, except "The Story of Great Inventions," which is $1.25.

HARPER & BROTHERS, PUBLISHERS, NEW YORK

COPYRIGHT, 1911, BY HARPER & BROTHERS

PRINTED IN THE UNITED STATES OF AMERICA
PUBLISHED MAY, 1911

Digitized by Google

CONTENTS

PAGE

PREFACE. By *Eugene L. Swan, M.D.* xi

INTRODUCTION xiii

Part I

THE CAMPER'S OPPORTUNITIES

CHAPTER I.—WHERE TO CAMP. By *James Wellman* . . . 3

CAMPING NEAR HOME—CAMPING IN MAINE—CANADA—THE ADIRONDACKS—WEST AND SOUTH

CHAPTER II.—INDIAN CAMPS AT HOME. By *Joseph H. Adams* 11

Joint Author of *Harper's Outdoor Book for Boys*, etc.

A WIGWAM—A SQUARE TEPEE—A RIDGE-POLE TEPEE

CHAPTER III.—TREE HUTS AND BRUSH-HOUSES. By *Joseph H. Adams* 18

A LOW TWIN-TREE HUT—A HIGH TWIN-TREE HUT—A SINGLE-TREE HUT—A LOW SINGLE-TREE HUT—A BRUSH-HOUSE—A BRUSH "LEAN-TO"

Part II

CAMPING FARTHER AFIELD

By *Joseph H. Adams*

(With the exception of the first chapter)

CHAPTER IV.—CHOOSING A CAMP-SITE 39

PERSONAL OUTFIT—CAMPS ON LAKES—RIVER CRUISING—COOKING UTENSILS—PROVISION SUPPLY

255427

Digitized by Google

CONTENTS

PAGE

CHAPTER V.—TENTS AND TENT-MAKING 49
A Tent of Medium Size—A Large Camping-tent—Flies and Canopies—A House-tent—The New Tent

CHAPTER VI.—HOW TO FIT OUT THE CAMP 65
Canvas Cots and Hammocks—Tables and Benches—Camping Equipment—Lockers and Mess-kits

CHAPTER VII.—CAMP-FIRES AND SIMPLE COOKING . . 75
Stone Stoves—Other Fireplaces—Camp-cooking—"Uncle Harry's" Advice

CHAPTER VIII.—FISHING RODS AND TACKLE 87
Sportsmanlike Fishing—Care and Patience—Tackle—The Choice of Rods—Lines and Hooks—Other Tackle—Bait-rods and Fly-rods

CHAPTER IX.—FISHING WITH BAIT 98
A Seine Net—A Bait-boat—Baits, and Where to Find Them—A Trap for Small Fish—A Water-turtle Trap—An Eel-pot—A Scap-net—A Hoop Drop-net

Part III

FLY-FISHING AND WILDERNESS CAMPING

CHAPTER X.—HOW TO LEARN FLY-FISHING. By *Henry P. Wells* 117
Author of *Fly-rods and Fly-tackle, The American Salmon Fisherman*, etc.
Practice at Home—First Position—The Back Cast—The Forward Cast—The Strike—A Cardinal Principle—The Manipulation of the Fly—Practical Conclusion—A Fish Story

CHAPTER XI.—REPAIRS. By *Henry P. Wells* 143
First Principles—The Invisible Knot—Applying the Lessons—The Angler and the Novice

CHAPTER XII.—WILDERNESS CAMPS AND FISHING. By *James Wellman* 165
Hints for a Long Trip—A Few Outfitting Points—Personal Belongings—The Vexed Question of Guides—Insect Pests—Warnings for Campers—Care of Fires—

Digitized by Google

CONTENTS

PAGE

Some Familiar Fish—Brook Trout—Lake Trout—Black Bass—Muskallunge—Pickerel—Yellow Perch—Burbot or Cusk—The Leaping Ouananiche

Part IV

ORGANIZED CAMPS

By *Eugene L. Swan, M.D.*

CHAPTER XIII.—THE GROWTH OF ORGANIZED CAMPS 183

The Movement Toward Outdoor Life—Unusual Opportunities for Boys' Camps—Family Camps—Organized Camps—Origin—Objects of Boys' Camps

CHAPTER XIV.—HOW TO CONDUCT A CAMP 189

Trained Directors—The Profession of Conducting a Boys' Camp — Sanitation — Dietetics — Boys' Growth —Location of the Camp—Physician—Surroundings—Soil — Mosquitoes — Privacy — Tent - placing — Tent Material — To Erect a Tent — Tent Poles — Floors — Floor Boughs—A Wigwam or Tepee in the Woods—Sibley Tents

CHAPTER XV.—THE BILL OF FARE 209

Food for Canoe Trips—Beverages—Pointers—Recipes from Soup to Dessert—Practical Hints

CHAPTER XVI.—KEEPING A CAMP CLEAN 228

Care of Kitchens and Food—Cooks—Latrines—Laundry and Clean Clothes—Policing Camps—Tent Hygiene

CHAPTER XVII.—HOW TO USE A CANOE 234

Canoes and Their Cost—Repairing a Canoe—How to Paddle—Equipment—Loading—Rough Water

CHAPTER XVIII.—MAKING A TEMPORARY CAMP . . . 244

Unpacking—Getting Firewood—Arrangement of Cooking Dishes—Building Fires—Making Fires Without Matches — Woods — Building Fires in the Rain — To Light the Fire—Camp Stoves

CHAPTER XIX.—HIKING OR TRAMPING 254

Distance to March—General Rules—Clothing—Other Equipments—Drinking-water—Food—Hours of Rest

Digitized by Google

CONTENTS

PAGE

CHAPTER XX.—CAMP OR SCOUTING GAMES 220

OUTDOOR GAMES—WAR GAME NO. 1—THE BESIEGED CITY GAME—ATTACKING PARTY IN CANOES—ENSAI-TAI PARTIES—CANOE TAG—CAPTURING THE FLAG—INDIAN GAMES—MAP-MAKING—FEET AND INCHES—HELPFULNESS AND COURTESY—SHOOTING THE CHUTE—SEEING AND REMEMBERING—IDENTIFICATION—WIND-BALL

CHAPTER XXI.—THE HANDLING OF BOATS 280

CAMP LIFE ON THE WATER—NECESSARY KNOWLEDGE—RULES OF THE ROAD—NAUTICAL TERMS—MANAGING SAILS—PRUDENCE AND CARE—POWER-BOATS—CAMP-YACHTS—NAUTICAL SCHOOLS

CHAPTER XXII.—IN CASE OF ILLNESS OR ACCIDENT . 287

TREATMENT OF WOUNDS—HOW TO STOP BLEEDING—DRESSING WOUNDS—SIMPLE AND COMPOUND FRACTURES—DISLOCATIONS — SPRAINS — DROWNING — ARTIFICIAL RESPIRATION — UNCONSCIOUSNESS — FAINTING — SUNSTROKE — POISONING — MEDICAL AND HEALTH HINTS

Part V

BOY SCOUTS

CHAPTER XXIII.—THE BOY SCOUTS OF ENGLAND. By *Sydney Brooks* 301

ORGANIZING THE BOY SCOUTS—THE ENGLISH SCOUTS' OATH—THE SCOUT LAW IN ENGLAND—PATROLS AND TROOPS—TESTS—BADGES

CHAPTER XXIV.—THE BOY SCOUTS OF AMERICA. By *John L. Alexander* 311

Acting Managing Secretary of The Boy Scouts of America

BEGINNING AND GROWTH—LEADERS OF THE MOVEMENT—WHAT A BOY MUST DO TO BELONG—THE SCOUT LAW

CHAPTER XXV.—TRAINING IN SEEING CLEARLY. By *Eugene L. Swan, M.D.* 320

KEEP YOUR EYES OPEN—REMEMBER WHAT YOU SEE—WEATHER SIGNALS—PROVERBS ABOUT THE WEATHER—BIRDS, FLOWERS, AND TREES

Digitized by Google

CONTENTS

PAGE

CHAPTER XXVI.—HINTS FOR CAMPERS AND SCOUTS. By *Eugene L. Swan, M.D.* 329

MEASURING A TREE'S HEIGHT—APPROACH OF AN ENEMY—TRAILING—FOOTPRINTS—TALKING WITHOUT WORDS—WHEN LOST IN THE WOODS—DETERMINING DIRECTIONS

CHAPTER XXVII.—SIGNALLING AND SIGN LANGUAGE. By *James Wellman*. 342

THE MORSE ALPHABET—OTHER MEANS OF COMMUNICATION—SIGN LANGUAGE AMONG THE INDIANS—EXAMPLES FOR PRACTICE—WIGWAGGING, ETC.

Part VI

MOUNTAINEERING AS A SPORT

By *Garrett P. Serviss*
Author of *Round the Year With the Stars*, etc.

CHAPTER XXVIII.—MOUNTAINEERING AS A SPORT . . 351

IN THE WHITE MOUNTAINS—AN ADIRONDACK ADVENTURE—MT. TACOMA OR RAINIER—IN A WONDERFUL FOREST—MIDSUMMER SNOWBANKS—THE HEALTH-GIVING MOUNTAINS

Part VII

OUTDOOR LIFE FOR GIRLS

CHAPTER XXIX.—CAMPING FOR GIRLS. By *Miss Marie J. Warren* 367

A DAY'S PROGRAM—WORK AND PLAY—THE REST-HOUR—TAPS—VARIETY OF AMUSEMENTS—CAMPING TRIPS—OUTFIT—HOW TO CHOOSE A CAMP—COUNSELLORS—ADVANTAGES OF THE LIFE

CHAPTER XXX.—A CARAVAN TRIP IN ENGLAND. By *G. Phillips* 382

PRINCE AND THE WAGON—THE START FROM BATH—MAKING CAMP—A STRENUOUS LIFE—SIGHT-SEEING—REST IN A TURNPIKE HOUSE—AFTER TWO HUNDRED MILES

INDEX 395

Digitized by Google

Digitized by Google

PREFACE

HAVE you ever sat in the saddle from dawn until dark, and watched your pony pick his steps up steeps where a goat would have difficulty, and where the trail winds about, a foot or so wide, dropping sheer a thousand feet on one side, and rising to the white floating clouds on the other?

Have you ever paddled a canoe up a winding river, where the alders and birches form a protecting arch that let in delicious glimpses of blue upon you? Have you ever paddled noiselessly along shore where the rushes nod and whisper, to find, on suddenly rounding some point, the full moon climbing over the hill, and where—your breath ceasing for a moment—daintily comes a deer to drink, antlers and body black against the light?

Possibly you know the lure of the sea, and love the stinging beat of the salt spray crusting your face and lips. Have you ever sat all day on the rail of a dancing sloop, and beat to windward, your lee rail awash, and then come to anchor in your safe harbor, hung out your riding light, and sat down to a meal that a king might envy? You sit back in lazy contentment, listening to the water lapping about the bows, the slap of the halyards against the mast, the cry of some distant water fowl, and you feel *good* all through.

Digitized by Google

Did you say that you have not the means or the time to do such things, or that you do not know where to go or how to go about? Nonsense. There are places within twenty-five miles of New York where you can pitch your tent and watch the sun go down across wide stretches of woodland and water that will make you think you are a hundred miles from any city.

There are white tents under the Palisades, where, under canvas, many are gaining health. There are good cruises and sailing in the wonderful waterways around New York. The Sound, the river, and the great bays on the south shore of Long Island, all offer pleasant and varied experience. The highways to Sleepy Hollow, to the land of Rip Van Winkle, and the sleepy Dutch towns extend their invitation to all who will accept.

Young man, get out into the open. The world demands strength and staying qualities. Do not, oh, do not, spend your vacation time in a hotel, or Pullman car. It will do you more good at twenty to sleep under boughs aslant, by a mountain lake with the trout broiling, than to see the Congressional Library or Niagara Falls.

The great cry of "Back to Nature" that is spreading abroad over our land is full of deep significance, and the heeding of Nature's ever-calling voice, and an adaptation of our lives to her laws, is going to become a salvation of the American race.

EUGENE L. SWAN.

Digitized by Google

INTRODUCTION

THE popularity of Harper's Practical Books has brought many suggestions and inquiries for a guide to camp-life which should be modern and comprehensive, but at the same time simple and explicit. The aim of the books in this series is self-development. They show how to do things instead of dealing in description. This idea of doing for one's self is the keynote of this book of camping, woodcraft, and various phases of the outdoor life which has grown so enormously in favor of recent years. It does not deal in description of scenery or tales of outdoor experiences, and its information will be found of immediate practical value whether the reader is a member of any organization or not. This is an American book, intended to show American boys and girls how to make camps at their own homes or abroad, how to prepare for outdoor life, where to go, how to choose a camp-site and make camp, how to live in camp, how to dress and cook and eat, how to amuse themselves, how to take care of themselves in the woods and on the trail or river, and, together with these general subjects, there are explanations adapted to the very different kinds of camps which appear throughout our country every summer. There are boys and girls who find infinite pleasure

Digitized by Google

in pitching home-made tents in the lee of their own houses, or in building shelters or tree-huts in their own grounds. Here are helpful suggestions for them as well as for those who camp farther afield.

While no exact estimate is possible, it has been said that over one hundred thousand boys and girls go into camps for a longer or shorter time every summer. There are the camps of Y. M. C. A. Associations, Fresh Air Camps, camps for invalids, school camps, military camps, individual camps, camps on Western ranches and mountains, and camp-life on beaches, on house-boats and with caravans, and also the immense and significant development of private camps for boys and girls, a subject hitherto so inadequately treated that the special attention of parents as well as younger readers may be called to the part of the book in which Dr. Eugene L. Swan draws upon the stores of his experience in his treatment of private summer camps.

With all this increase in outdoor life there has naturally come an increased supply of equipments. Some of the older books contain directions for making fishing-rods and hammocks, but to-day, in view of the number and range of prices of such articles which are easily accessible, it is not necessary to spend the time, although some hints in this direction are afforded. Nevertheless it is essential to be guided by accurate knowledge in making selections of outfit or supplies. The vast number of canned goods and prepared foods simplifies the work of the commissary department in one sense, and yet renders a discriminating choice more than ever necessary. The danger now is of being led away by the temptations of patented but experimental

Digitized by Google

equipments, by the attractive exteriors of superfluous and occasionally worthless articles, and by mere novelties in the way of prepared foods. Without any argument for the primitive simplicity of a Maine "cruiser's" outfit, it is safe to say that the great majority of camping-parties are overloaded with superfluities.

As a matter of course, the equipment for a hunting-trip in Mississippi or Louisiana cane-brakes differs radically from the outfit for a camp in the Adirondacks, just as very different provision is needed for a pack-train outfit in Montana or Wyoming and a fishing-camp in Maine, New Brunswick, or Quebec. Local conditions are naturally dealt with only in a general way, but there are plenty of matters of universal consequence which should be made clear to boys and girls in the United States and Canada, and, for that matter, to a large proportion of older readers.

For example, after outfit and place are settled upon, there is, in many cases, a question of guides, and it must be confessed that with the growth of extravagant taste and of the tipping habit and the establishment of luxurious hotels in proximity to camping-grounds many guides have become enervated, greedy, and inefficient. This is a matter of which a modern camping-book must take cognizance, just as something must be said of commercially organized private camps for boys where the supervision is more or less irresponsible.

Subjects like the considerations governing the exact choice of a camp-site, questions of drainage, water, etc., are explained as a matter of course, but there are other things which must be dealt with as frankly as the matter of guides, among them the necessity of "policing" a camp effectively,

Digitized by Google

tin cans and rubbish, a regard for
–in short, sanitation and a regard
or life, as well as the elementary
against fires. The need of em-
as been shown too often among
noticeably in some phases of military camp-life. This book includes some of the newer lessons drawn from military experience.

There are few boys who are not followers of Izaak Walton when the chance is offered, and this book affords them practical general suggestions and counsel which are based upon a long experience. Fly-fishing is naturally placed first as the most sportsmanlike and delightful way of matching one's wit against game fish. While trout-fishing takes precedence, there are adequate general explanations of fishing for bass and ouananiche and also pickerel and other fish. And one point which the authors of this book impress upon their readers is true sportsmanship. Never kill for the sake of killing. Never catch more fish than can be used. These are homely maxims, but they are to be reiterated until the "trout-hog" disappears. Fortunately, there is a better spirit in outdoor life to-day, and among other phases of this more humane attitude is the substitution of the camera for the indiscriminate use of gun or pistol upon squirrels and birds in the woods.

The subject of woodcraft is explained simply and naturally. It is an American inheritance. A knowledge of woodcraft was enforced upon the first-comers to this continent, and "Nessmuk," and others who have aided in adapting this knowledge to modern use have helped the education

Digitized by Google

of American boys and girls. England has approached certain phases of outdoor life from a different point of view. In this book the simpler essentials of woodcraft and certain desirable phases of "scouting" are explained without any desire to impose arbitrary rules or to increase youthful self-consciousness.

Subjects like personal care in camp, illness, accidents, first aid, protection against insects, and many others receive proper attention, and some space is devoted to camp cookery and camp receipts.

Through the courtesy of Dr. George Bird Grinnell, the outdoor literature published by the Forest & Stream Company has been generously placed at the disposal of the publishers, and it is a pleasure to make acknowledgment of the aid afforded through comparison and selection in the case of the books of "Nessmuk" and others. The effort of the editors has been to bring together a consensus of the opinions and experience of experts in the various phases of the modern outdoor life which, happily, is assuming such large consequence on this continent.

Digitized by Google

Digitized by Google

Part I

THE CAMPER'S OPPORTUNITIES

Digitized by Google

Digitized by Google

UNIV. OF
CALIFORNIA

CAMPING AND SCOUTING

Chapter I

WHERE TO CAMP

SUMMER and outdoor life in the middle of the nineteenth century and later consisted very largely of visits to summer hotels. Very fortunately now, although too many of our houses and public buildings are overheated and badly ventilated in winter, the virtues of fresh air and outdoor life are generally recognized. We see pictures of outdoor schools with the children studying in a snowstorm. It is no uncommon thing to find sleeping-pavilions arranged on the roofs or extensions of city houses, and loggias, or sleeping-porches, are constantly in use in country houses. These and a hundred other manifestations of the fresh-air spirit are good, but for the boy or man, girl or woman who has never known genuine camp life the fullest enjoyment is yet to come.

Camping near Home

For the great majority of boys and girls camping is a question of a month or two in summer. Obviously, very few need to be guided to autumn camps in the North in pur-

Digitized by Google

suit of moose, or winter camps in Florida or California, or such long journeys as that which begins at the mouth of the Misstassini and includes the southern shore of Hudson Bay, or the old Telegraph Trail to Alaska. For some, camp life may mean simply a tent—perhaps home-made—pitched within easy reach of home comforts. Home camping is explained at length in later chapters. Of camping on farm lands or in the neighborhood of houses there is this to be said: First make sure of the permission and approval of the owner of the land. Secondly, respect his rights in every way. Cut no trees without his consent. Don't knock down fences or walls, or trample growing crops. If you let down bars or open gates, close them after you. Never take fruit or corn without permission. Watch your fire with the utmost care. Keep your camp clean and dispose of all rubbish before leaving. Every summer there is much damage done and much hostility aroused by campers regardless of the rights of others. With a little thought and trouble all this can be avoided and the next camper will be sure of a welcome. Unfortunately, there are boys who seem to feel that camping means license and rowdyism. On the contrary, camp life is the test of the gentleman. The camper has a responsibility to the owner of the land and to those who come after him. One primary obligation wherever the camp may be is not to spoil natural beauties.

Camping in Maine

As to camping-places farther afield, in a section which retains more or less of the wilderness character, the State of

Digitized by Google

CAMPING AT ROCKAWAY BEACH, LONG ISLAND

CAMPING UNDER THE PALISADES OF THE HUDSON

Digitized by Google

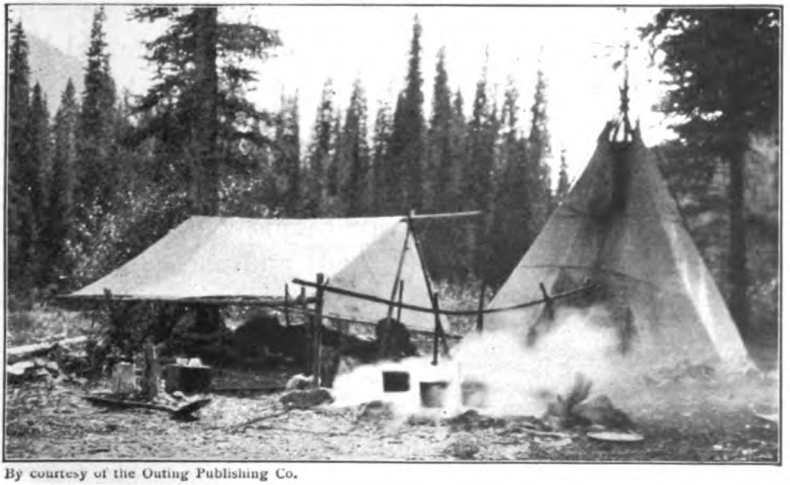
Maine comes naturally to mind as perhaps the most inviting of the Eastern States for the fisherman. It has a vast area of unsettled territory rich in lakes, rivers, mountains, and forests, all excellently mapped. Camp life is a business in Maine which involves both advantages and disadvantages, but it is easy to obtain information through local guide-books and railroad publications.[1] The State Fish and Game Commission in Maine, as in other States, is usually able to indicate sources of knowledge regarding local subjects. In all these cases the glittering promises of railroad literature and local books regarding fishing may be accepted only with some allowances. It is always desirable to obtain an impartial opinion from some one who has actually covered the ground in person. It should be borne in mind that August is in almost every trout region a poor month for fly-fishing, and it is a question of finding some small lake with cold water where the trout come to the surface even in hot weather. The Maine guides furnish their own canoes and their personal camp outfit and cooking utensils, and receive three dollars a day each. There are many regular trips, most of which involve additional charges for transportation across portages, steamboat fares, and the influence of the guides is sometimes thrown strongly in favor of nights at public camps. All these extras should be taken into account in making arrangements. But the beauty of the Maine woods and rivers continues in spite of the inroads of water-

[1] The Boston & Maine, Maine Central, and Bangor & Aroostook railroads publish suggestive advertising literature. Messrs. Loring, Short & Harmon, of Portland, could furnish information regarding local guide-books and maps.

Digitized by Google

By courtesy of the Outing Publishing Co.

A WOODLAND CAMP NOT FAR FROM HOME



By courtesy of the Outing Publishing Co.

A WILDERNESS CAMP IN BRITISH COLUMBIA

Digitized by Google

power and wood-pulp companies, and the invigorating tonic of the Maine air may be accepted without any reservations.

In New Brunswick and Quebec the salmon rivers are leased, and very definite information as to the possibilities for trout-fishing should be obtained in advance.[1] At Roberval, on Lake St. John, the headwaters of the Saguenay in Quebec, visitors are outfitted for ouananiche-fishing, which is uncertain. But if the ouananiche is found and hooked there is no keener sport for the fisherman. These are, of course, merely illustrations of the endless opportunities for outdoor life offered by the great empire of Canada nearly all the way from Labrador to the Pacific and far to the north.

The Adirondacks

So far as trout-fishing is concerned Maine leads the Eastern States, but there is trout-fishing and lake-fishing to be had in the other New England States, particularly New Hampshire and Vermont, both of which in their beautiful lake and mountain scenery offer ample inducements to outdoor life. In New York the famous Adirondack region has undergone a transformation since it was exploited to former generations by "Adirondack" Murray. The multiplication of great hotels, elaborate private camps, and the control of large tracts by private individuals and clubs have taken away much of the wilderness character, and made it neces-

[1] The advertising literature of the Intercolonial, Quebec & Lake St. John, Grand Trunk and Canadian Pacific railroads will afford helpful hints. By writing to the passenger departments of these railroads, and asking specific questions, additional information may be obtained.

Digitized by Google

sary to obtain exact information as to what can and cannot be done. But there are ample opportunities for canoemen and campers.[1] Many regular trips have been mapped out across the Adirondack region, and State control has preserved for the public a magnificent outdoor playground. The southern Catskills and Sullivan County are also centres of outdoor life. For Eastern anglers the Beaverkill is a familiar name.[2] And continuing farther south into Pennsylvania there is the bass fishing of the Delaware[3] and the trout of Pike County.

West and South

These few suggestions serve to point the way to natural opportunities which range from Texas and the Ozark Mountains of Missouri to the upper Michigan peninsula, the lakes of Wisconsin and Minnesota, the mountains and parks of Colorado, Wyoming, and Montana, the foothills of the Sierras in California, and the magnificent mountain, lake, and forest regions of Oregon and Washington.

Railroad literature, correspondence with State Fish and Game Commissions, and local guide-books are all helpful. But the actual experience of those who have tried the

[1] The passenger department of the Delaware & Hudson Railroad at Albany publishes a guide-book entitled "A Summer Paradise" which will be found useful. The passenger department of the New York Central lines at New York issues literature and maps useful for camping or canoe trips. The secretary of the Adirondack Guides Association can be addressed at Saranac Lake, New York.

[2] The passenger department of the Ontario & Western Railroad can furnish information.

[3] The Erie Railroad issues some helpful publications.

Digitized by Google

ground for themselves is best of all. Therefore, when considering the multitude of advertisements which every spring invite the lover of outdoor life to Maine or Canadian camps or to pack-train expeditions in the Northwest, remember that it is always prudent for a boy or for his father to obtain and utilize specific references. Details as to places are obviously impossible in a book which is a guide to the general principles and best methods of outdoor life.

From this preliminary outline of possibilities we shall return to our real starting-point—the home.

Digitized by Google

Chapter II

INDIAN CAMPS AT HOME

SINCE home is the natural centre of life, it will be most helpful if we find out what we can do just outside the house. In large cities there is usually no front yard, and even where such space exists its use as a play-ground is apt to be undesirable. But the back yard even in cities often affords some chances not only for gardening on a small scale but also for making and using a variety of things which will furnish constant amusement.

A Wigwam

For boys who like to "play Injun" in the back yard, here are some ideas for tepees and wigwams that may easily be followed out at a very small cost for the poles and canvas.

Canvas can be bought at a dry-goods or country store, and poles may be cut in the woods; or one-and-one-half-inch-square spruce sticks may be purchased at a lumber-yard and dressed round with a draw-knife and plane. When

Digitized by Google

cutting poles for a wigwam it is necessary to select very straight ones, preferably of pine, for crooked or knotty poles are unsightly and make an uneven exterior.

The real Indian tepee is made from buckskin or other strong hides lashed together with rawhide thongs; but as this covering is beyond the reach of the average boy, the next best thing to use will be heavy twilled canvas or stout unbleached muslin that can be had for about ten cents a yard. The regulation wigwam is perhaps the most satisfactory kind of a tent, for it is roomy, will shed water, and it is about the only tent in which a fire may be built without smoking out the occupants. The tepee will not blow over if properly set up and stayed with an anchor-rope, and it is easily taken down and moved from place to place.

For a party of three or four boys the wigwam shown in Fig. 1 will afford ample room, and it is not so large as to be unhandy. Select thirteen straight poles, not more than two inches thick at the bottom, and clear them from knots and projecting twigs. They should be ten feet long and pointed at the bottom so as to stick into the ground for a few inches. Tie three of them together eighteen inches from the top, and form a tripod on a circle five feet and six inches in diameter. Place the other poles against this tripod to form a cone, as shown in Fig. 2, and lash them fast at the top with a piece of clothes-line. From unbleached muslin or sail-cloth (light weight) make a cover as shown in the diagram Fig. 3. Lay out a sixteen-foot circle on a barn floor, or the grass, with chalk, and indicate an eighteen-inch circle at the middle. Around the outer circle or periphery measure off nineteen feet and chalk-mark the

Digitized by Google

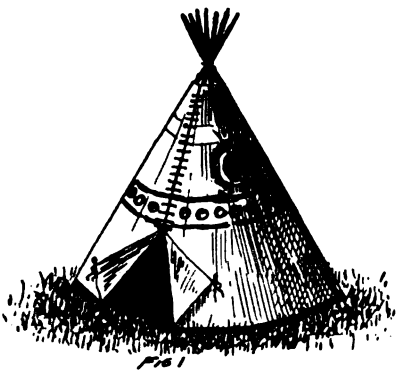


Fig 1

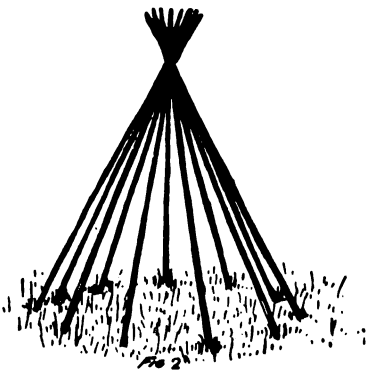


Fig 2

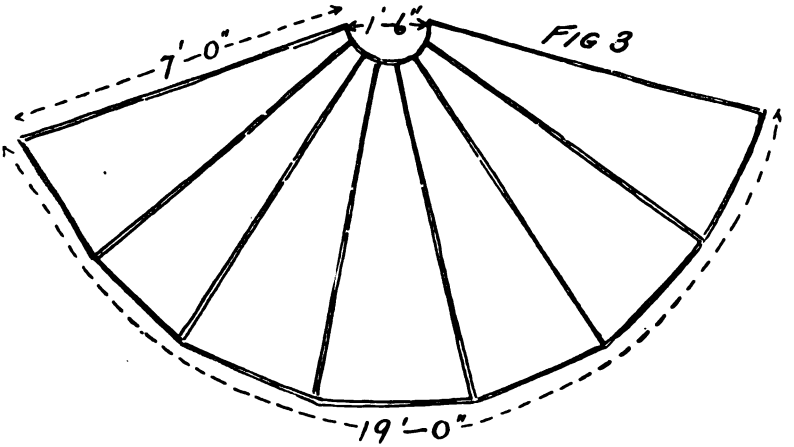


Fig 3

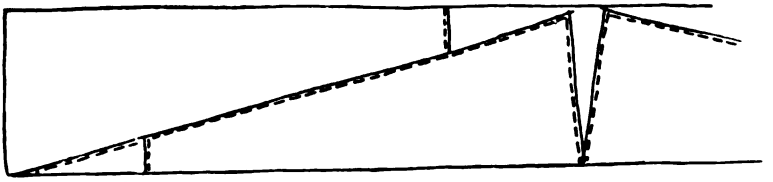


Fig 4

A WIGWAM

Digitized by Google

space. From these marks to the centre of the circle draw straight lines, and within these limits the area of the wigwam cover will be shown. It should correspond with the plan drawing in Fig. 3. The muslin should be three feet wide and with it this area can be covered in any direction, sewing the strips together to make the large sheet; or the muslin may be cut in strips three feet wide at one end and tapering to a few inches at the other, as shown in Fig. 4, the seams running up and down the canvas instead of across it. The outer edge of the canvas cover should be bound with clothes-line or cotton rope, sewed securely with waxed white string; then thirteen short ropes should be passed over this rope so that the canvas may be lashed fast to the foot of each pole to hold the cover in place. The doorway flaps are formed by stopping the lacings three feet up from the ground. With short ropes and rings sewed to the cover the flaps may be tied back, as shown in Fig. 1.

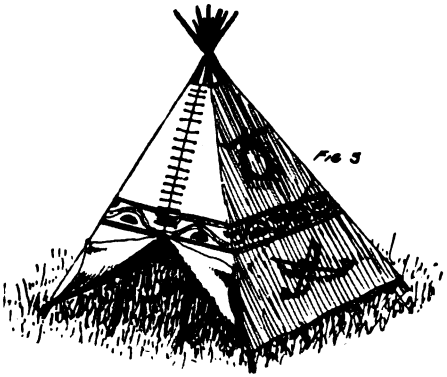
The real Indian wigwams are decorated with all sorts of emblems, for even the uncivilized red men had their crests and totems, and the boys who make these tepees can easily invent some mark which will distinguish their tent abode from all others. The ornamentation should be done with paint and should be carried out before the canvas covering is stretched over the poles.

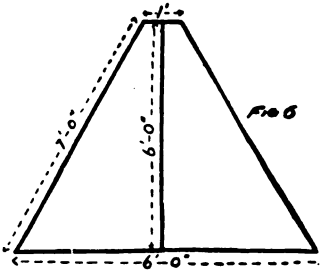
A Square Tepee

A square tepee, as shown in the illustration Fig. 5, is another form of rear-yard tent that is easily made. Twelve poles are selected and four of them are lashed fast and spread

Digitized by Google

apart on a square of six feet. Two poles are added to each side and all are lashed together at the head. Four pieces of canvas or heavy unbleached muslin are cut and made on the plan as shown in Fig. 6, the strips being cut from goods a yard wide. These pieces are six feet long, one foot wide





at the head, and six feet at the foot. The seam through the middle of one piece is left open for three feet to form the doorway flaps; then the four sides are securely sewed together with waxed white string. This cover is slipped about the pole frame, tied at the front, and held down by means of short ropes that are lashed fast to the foot of each pole. The cover is decorated with paint to give it the Indian appearance, and when the flaps are tied back it is easy to go into and come out of the tepee.

A Ridge-pole Tepee

A ridge-pole tepee is shown in Fig. 7, and is a very easy and simple one to make, for it is of one piece of

Digitized by Google

canvas with two flaps sewed at each side to form the ends.

One ridge and two upright poles make the framework, and they are held in place by the canvas, which is drawn and lashed fast to stakes driven in the ground, as may be seen in the drawing. The ridge-pole is eight feet long, one and

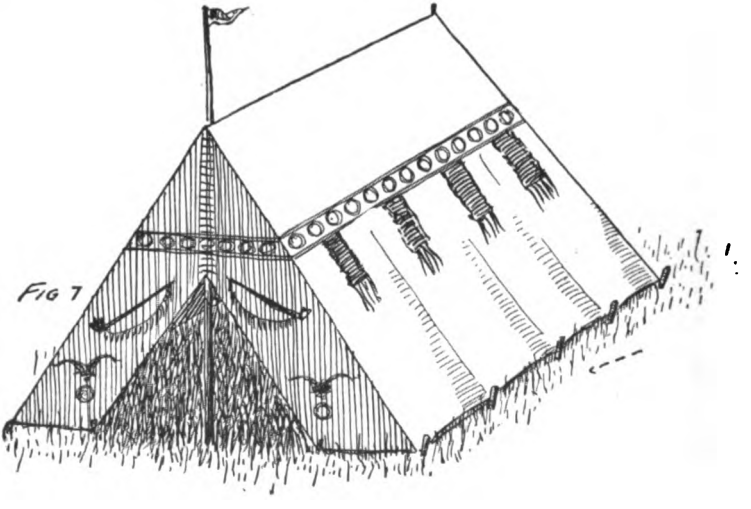


FIG 7

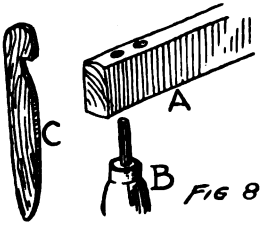


FIG 8

a half inches thick, and four inches wide. Two inches from either end a half-inch hole is bored to receive the iron pins that are driven in the ends of the uprights as shown at Fig. 8 A and B. The upright poles are eight feet long, and when set one foot of the lower end should be embedded in the

Digitized by Google

ground. The sides are in one piece of muslin made by sewing widths of it together. The sheet measures seventeen feet long and eight feet wide; and when stretched over the ridge-pole and fastened down at both sides an inverted shape will be the result. It is ten feet across at the bottom, seven feet high, and eight feet long at each side. For the back it will be necessary to make a triangular piece of canvas the right size to fit the opening, or two flaps may be cut, divided at the middle, and tied back, or laced, to close the tent. The apron or part enclosure at the front is formed from pieces of canvas two feet wide sewed along the edges and caught together at the middle over the opening.

Ten pegs eighteen inches long and two inches wide are cut from hard-wood as shown at Fig. 8 C. These are driven in the ground at an angle and ropes attached to the lower edges of the canvas sidings are lashed fast to them. This tepee is long enough to swing a hammock from pole to pole, and on a warm summer night makes an ideal place for sleeping out-of-doors. The covering, like that of the other wigwams, may be decorated with Indian emblems, and if a party of boys are going to camp in the back yard their tepees can be inscribed with different crests and totems to indicate individual ownership.

Digitized by Google

Chapter III

TREE HUTS AND BRUSH-HOUSES

THE most delightful season in the woods, throughout the northern and middle parts of the United States, is during the summer months, and in the South right up to Christmas; while in other parts of the country, through southern Texas and California, the woods are attractive all through the year.

Brush-houses, sylvan retreats, and tree huts of various kinds are made by boys all over the country, and some very unique and original ones are often constructed from simple and inexpensive materials. Everything from the back-yard "lean-to" and the tent of sheets to the tree huts that are inaccessible when the rope-ladder is drawn up may be made by boys who are at all handy with tools, and a well-built tree hut is an ideal place in which to spend one's vacation days.

The following ideas and suggestions may be of service, and they have all been tested in practical experience.

A Low Twin-tree Hut

A very serviceable twin-tree hut is shown in Fig. 1, and it can easily be constructed, at a small cost, from ordinary

Digitized by Google

boards and timbers. If it is built high up in the trees it is doubly secure from invasion, for the ladder can be drawn up when the owners are at home and it will be a difficult matter for outsiders to enter.

To properly build this hut select a location between two trees six to eight feet apart. The trees should have comparatively straight trunks at least fifteen inches in diameter, and no cavities at the base nor indications of decay.

With an axe clear off the brush and small branches for twenty feet up from the ground at the inside of the trunks, or where the hut is to be located. From a lumber-yard obtain four or five pieces of spruce or other timber two inches thick, eight inches wide, and sixteen feet long. Saw off and nail two of these pieces to the trunks of the trees eight feet above the ground, first cutting away some of the bark and wood of the trunk to afford a flat surface for the timbers to lie against on each side. Six-inch steel-wire nails will be required for these anchorages, and under the timbers and lying flat against the tree-trunks bracket-blocks two-by-eight inches and fifteen inches long are securely spiked to lend additional support to the cross-timbers.

Cut two timbers six feet long and two others the length of the distance between tree-trunks. In the six-foot pieces cut notches at the under side as shown in Fig. 2 C C. Into these the ends of bracket-timbers D D will fit. Cut the ends of the timbers forming the square frame so that they will dovetail as shown in Fig. 3. Spike the six-foot timbers to the tree-trunks so that they will rest on the first two timbers that were nailed to the trees, and from the two-by-eight-inch wood cut four brackets D D, and spike them

Digitized by Google

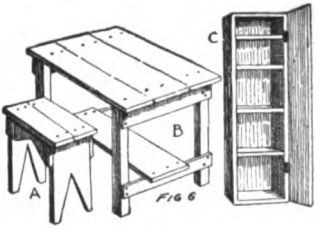


FIG 6

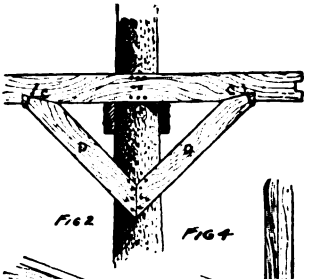


FIG 2

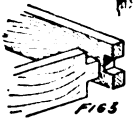


FIG 3

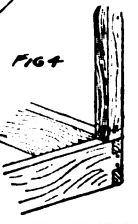


FIG 4

FIG 1

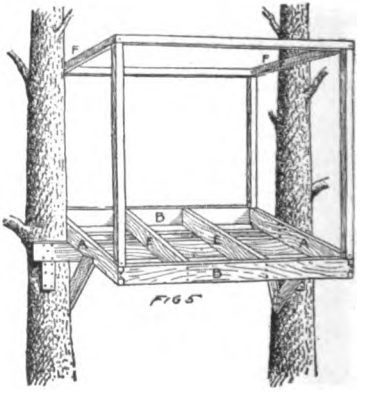


FIG 5

fast under each cross-timber so each tree will appear as shown in Fig. 2. Place the remaining two timbers in position so that the ends will fit into those fastened to the trees, and nail them fast as shown in Fig. 4.

In Fig. 5 the first timbers can be seen spiked to the tree-trunks, where they are supported by the fifteen-inch blocks nailed fast below them. The cross-timbers are shown at

Digitized by Google

A A, and the last ones, forming the frame that are let into dove-tailed joints at the ends, are shown at B B. Cut two more timbers E E, and lay them across the supporting timbers, nailed to the tree, so they will fit inside the front and back timbers B B, where they are to be well secured with long nails. The floor frame will then be complete.

From two-by-three-inch spruce construct a frame seven feet high at the front, six feet at the back, and spike the side timbers F F, forming the top, to the inside of the tree-trunks as shown in Fig. 5. The bottom of the uprights are to be mounted on the corners of the floor frame as shown in Fig. 4, where four long nails will hold them securely in place.

Cut two timbers and arrange them in an upright position at the front thirty inches apart, where the door will come, then half-way between the floor and top of the framework run a timber all around except between the door timbers. This will add a strengthening rib to which the sheathing boards can be nailed, and will also make one more anchorage to the tree-trunks. The side-rails should be spiked to the tree-trunks in a corresponding manner to that of the top or roof-strips. From a lumber-yard obtain some four, six, or ten inch matched boards, planed on both sides, and use them for the floor and sheathing.

The roof may be made from the same kind of boards, and over them a thickness or two of tarred paper is to be laid and fastened down at the edges and seams with small metal washers and nails that can be had where the paper is purchased. This will make the roof water-tight, for a season at least; and if it is given one or two coats of paint it will preserve the paper so that it may last for several years.

Digitized by Google

Two or three windows twenty-four inches square may be placed in the back and sides of the hut above the middle rib; and a door of boards held together with battens, as shown in the illustration, is to be made and hung with long, stout strap-hinges. A knob lock or a hasp and padlock will keep the door closed when the hut is unoccupied. When in use a wooden button will hold the door shut from the inside.

A ladder of hickory poles and cross-sticks should be made twenty inches wide and provided with loops at the top that will fit over large nails driven in the door-sill, so as to keep it from slipping when it bends under the weight of a boy.

Where the rungs join the side-rails of the ladder the union is made by lashing the cross-sticks fast with tarred rigging or stout cotton line. If a flexible ladder is preferred ropes may be used in place of the side-rails to which the rungs are lashed fast. When the owners are at home the ladder can be drawn up and hung on nails driven in the front edge of the roof. If a rope-ladder is used it can be drawn in and rolled up.

Inside of the hut, at either end, a seat eighteen inches wide should be built in about sixteen inches up from the floor. These seats can be used as bunks if desired. Some narrow shelving should be arranged over the windows and fastened there with brackets, on which small things may be kept.

A small table may be made from some ends of the sheathing boards and two-by-three-inch spruce sticks; and boxes may be used for seats, or small benches can easily be knocked together as shown in Fig. 6 A. Under the table a ledge

Digitized by Google

A HIGH TWIN-TREE HUT

Digitized by Google

twelve inches wide is to be attached to the lower cross-rails that connect the legs as shown at Fig. 6 B.

A wall-nest may be made from a shoe-case in which four or five shelves are arranged as shown in Fig. 6 C. A door made from the box-cover is attached with hinges, and a catch or hasp will keep it closed.

A High Twin-tree Hut

Twelve or fifteen feet above the ground, and built in between the trunks of two stout trees, a high tree hut is shown in Fig. 7. Larger and more substantial trees must be selected to build this hut in than the ones for the low hut, and as a rope-ladder will probably be used a landing-deck or piazza should be built at the front of the hut.

While this hut is built between two trees it is also built against them, as the trunk of each tree can be partially enclosed in the hut. The under cross-timbers that support the floor frame are to be attached to the trees the same as described for the low tree hut, and on these the other timbers are laid and fastened as shown in Fig. 8. The main timbers extend beyond the outside of the trunks, and the supporting and floor timbers enclose each trunk. At the front the frame is carried forward two feet more than at the back, allowing this much for the width of the deck. The uprights are arranged somewhat differently also, as they are bound at the top to scantlings that butt into the trunks. Fig. 8 A A.

Instead of a flat roof like the low hut, this one is to have

Digitized by Google

a pitched roof, the supporting timbers of which are attached to the ridge-poles B B, which are fastened to the tree-trunks in the same manner as the under cross-timbers. This construction is clearly shown in Fig. 8, where the location of each upright and cross-piece is indicated.

A rail is run along the front and one end of the deck, and is fastened at the top of four uprights of two-by-three-inch spruce, the lower ends of which are securely nailed to the front stringers as the illustration shows.

In place of the supporting brackets D D that are let into the timber C at Fig. 2, longer brackets or props are caught under the floor timbers and braced at the lower end against the trunks, where an additional anchorage or support is made by a stout block which is securely spiked to the trunk underneath each bracket end as shown in Fig. 8 C C. The frame is then enclosed as described for the low hut, and windows and a door are mounted as shown.

A long, stiff ladder may be used to climb up, but a more interesting ladder can be made of rope and hickory rungs. By means of a thin rope attached to the bottom rung the ladder can be hauled up to the deck so that it is out of the reach of other boys; and being fastened at the top, no one can remove it or pull it away as they could a stiff ladder.

A rope-ladder is made of stout clothes-line and hickory rungs lashed together securely with strong line as shown in Fig. 9. The rungs are of straight hickory with or without the bark on, one inch and a quarter thick and twenty-four inches long. Near the end of each rung a notch is cut on both sides for the rope to lie in, as shown at the upper end

Digitized by Google

of Fig. 9, and each union is to be very securely bound with the line so as to prevent slipping.

The ladder is hung on stout wooden pegs driven into the deck through holes one inch and a half in diameter. An extra rope is to be carried from the top rung up over the pegs and down again, where a wrap is taken over one or two

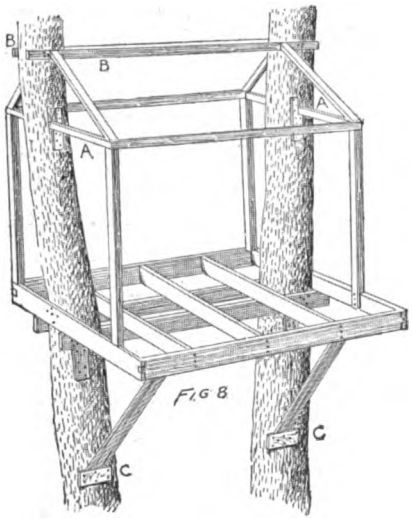


FIG 8

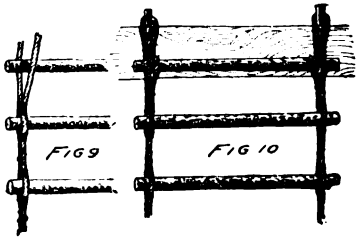


FIG 9 FIG 10

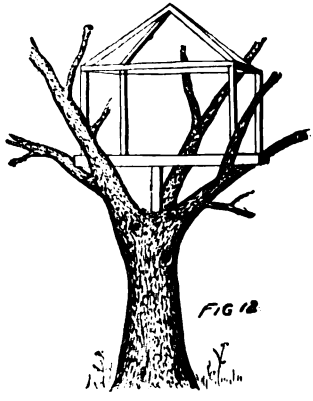


FIG 12

rungs; then it is lashed fast to the other ropes with the stout line as shown in Fig. 10.

Bunks and furniture can be made for the interior, and any other convenient accessories to the comfort and pleasure of the boy owners may be added as need arises.

Digitized by Google

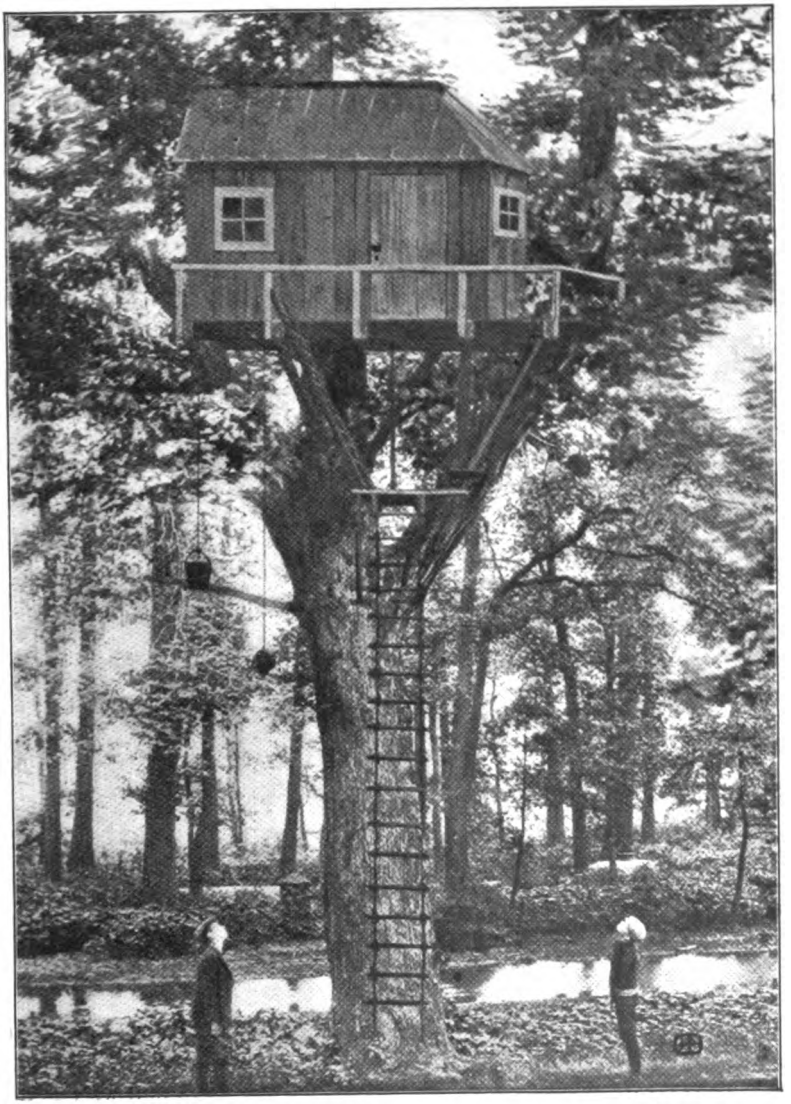


FIG. 11—A SINGLE-TREE HUT

Digitized by Google

A Single-tree Hut

In the spreading branches of a large oak-tree a very snug roost can be made high above the ground as shown in Fig. 11.

This single-tree hut is twenty-five feet above the ground, and below it is a landing from which the rope-ladder is dropped. From this landing to the piazza or deck of the hut a stiff ladder is made fast both at top and bottom, and an opening in the floor of the deck will allow room to climb up on the deck.

As very few trees are alike it would be difficult to give a plan for the floor timbers among the out-spreading branches; but from the plans shown for the twin-tree hut some idea of the construction can be had for single-tree huts.

The main tree-trunk will, of course, have to project up through the hut, and the location in the tree should be selected so that out-spreading branches will form a support to the lower edges of the floor frame as may be seen in Fig. 12, the plan of a low tree hut.

A peaked, a mansard, or a flat roof can be placed on the hut, depending on the main trunk to give it support; and if the space in the tree will permit, a deck across the front and both sides will be found useful. The floor timbers should be well braced to the main trunk of the tree with long and short bracket-pieces or props. These will help greatly in making the hut steady in the tree, and where the lower ends are attached to the trunk large spikes should be well driven in. Cleats or blocks can be nailed fast under the

Digitized by Google

ends also, as they will help to support and strengthen the anchorage.

Water and food can be kept cool by suspending them in a shady place. Water in a porous jug or earthen pitcher will keep very cold if hung in the tree branches where the air can freely circulate around it. Keep fire away from the tree huts, and do not light any matches nor burn candles, for if once a fire is started nothing will save your hut. It is too high to reach with a bucket, and, located as it is, a perfect draught will fan a small flame into a raging fire in no time.

A Low Single-tree Hut

It is not always best to build a hut in high trees, nor is it possible to do so in every case, because there may not be any high, large trees at hand strong enough to support a hut. For younger boys a low tree hut is preferable, so that if a possible misstep should result in a fall it would be less harmful than from a high tree. An apple or maple tree often affords a good support for a low tree hut, and if the trunk is substantially heavy a house similar to the one shown in Fig. 12 (page 26) can easily be constructed. The tree should be large enough to bear the weight of the house without straining it, particularly in a storm or high wind.

The general construction of the frame is shown in Fig. 12. The frame should be of two-by-three-inch spruce and the flooring beams can be of two-by-four-inch spruce or other timber. One or two windows and a door may be arranged in the hut, and tar-paper tacked on the roof will make it water-proof.

Digitized by Google

Access to the hut can be had by means of a ladder made from two-by-three-inch spruce rails with hickory rungs, or two-by-one-inch hard-wood sticks securely nailed to the rails.

A Brush-house

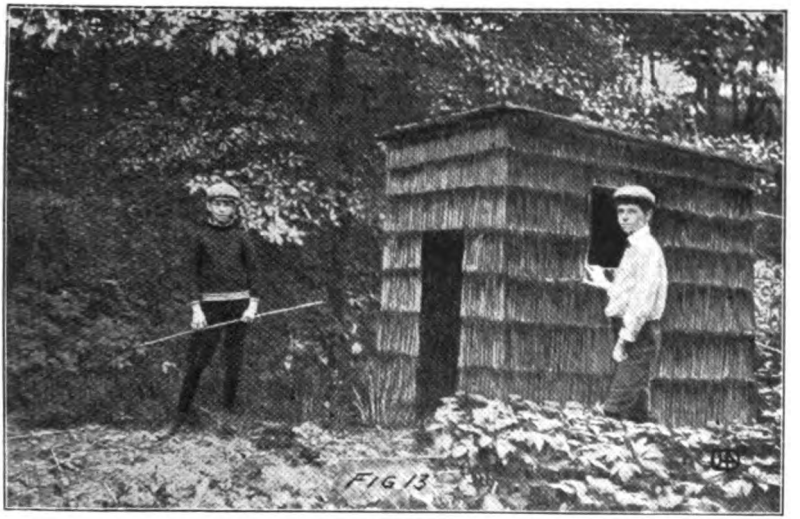
In nearly every part of the country where there is low ground one may generally find a high growth of plant life having a long stalk, with the greatest number of leaves at or near the top. Artichokes, cat-tail reeds, wild sunflower, and the stronger species of flag have stalks and reeds sufficiently strong from which to make the sides and roof of a hut or small house such as Fig. 13 depicts.

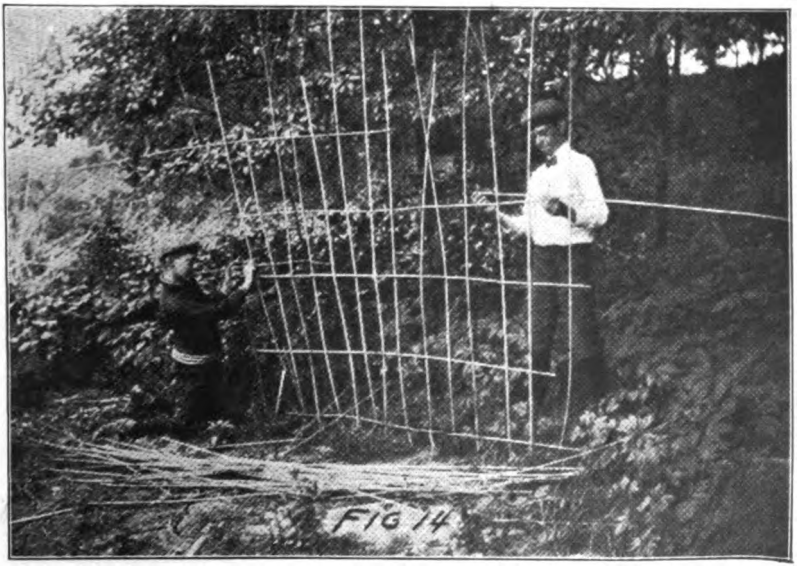
This growth is often ten feet high, and will have a straight and uniform reed at least seven or eight feet up from the ground before the thick top foliage reduces it in size. This last should be cut away and the smaller under branches and leaves trimmed off, leaving a comparatively straight shaft from six to eight feet long. This will be limber enough to be woven basket-fashion, and quite stiff enough to hold the thatching of meadow-grass or cat-tail reeds.

To build a brush-house like the one shown in the illustration, four sticks are to be set in the ground about six feet apart, forming a square. These should be eight feet long and sunk two feet into the ground, the upper ends being bound together with rails two inches wide and an inch thick.

A pitch can be given to the roof by cutting off the rear posts six inches and leaving six inches more of the front posts out of the ground, thereby allowing a pitch of one foot

Digitized by Google





Digitized by Google

to the six-foot length of roof. This slant is not necessary, however, and the roof may be flat if it is easier to make.

From the reeds a basket framework with eight-inch meshes is to be woven, as the boys are doing in Fig. 14. Three of these frames are to be made for the sides and rear of the hut, and at the front, above the doorway, a smaller one is to be made to cover the space between the front posts.

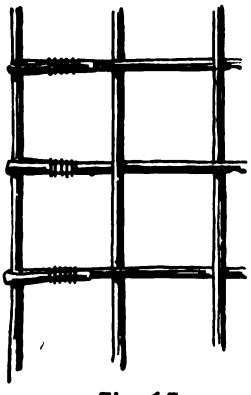


Fig. 15

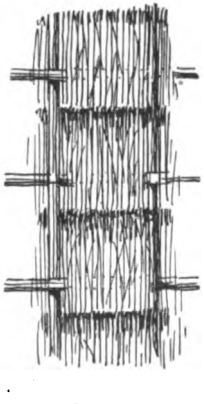


Fig. 16

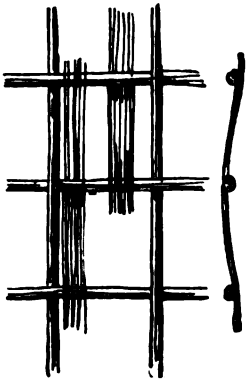


Fig. 17

The ends of the cross-reeds are to be bent around the end upright reeds as shown in Fig. 15, where they can be bound with string or tied with grass. The window openings in the side frames are made by cutting out a section of one or two uprights and turning the cross-reeds back and tying them. At the doorway two upright sticks are driven into the ground and a rail nailed across their upper ends.

To this wooden frame the front reeds may be attached, and the skeleton hut or house is then ready to be thatched

Digitized by Google

with long, dry grass or dried cat-tail reeds. The thatching is done by interweaving long grasses or reeds between the cross-reeds in a vertical position as shown in Fig. 16. The thatching material should be from eighteen to twenty-four inches long so that it can be interwoven between three cross-reeds as shown in Fig. 17, where a few strands of grasses are placed in position to give an idea of how to weave the grass.

Timothy or straw can be used to good advantage for thatching material, and if it is employed it should be woven with the heads up and not too close together, as the air should get through the thatching to keep the occupants of the hut cool. Of course a house may be made larger or smaller than the one described, but the principle of good construction is the same. Never depend on the four sides to hold together without the corner-posts, as the first good

Digitized by Google

wind that happened along would blow it flat, and perhaps beyond the possibility of repair.

The edges of each side are lashed fast to the corner-posts with grass or string, and when the roof is made it should be lashed fast to the top of the sides and front with long reeds or grass.

The roof is woven the same as the sides but is thatched closer; and about four inches of the roof should extend over the sides, front, and rear.

A Brush "Lean-to"

The general lines of a miniature barn are shown in the illustration of a brush "lean-to" (Fig. 18). This is con-

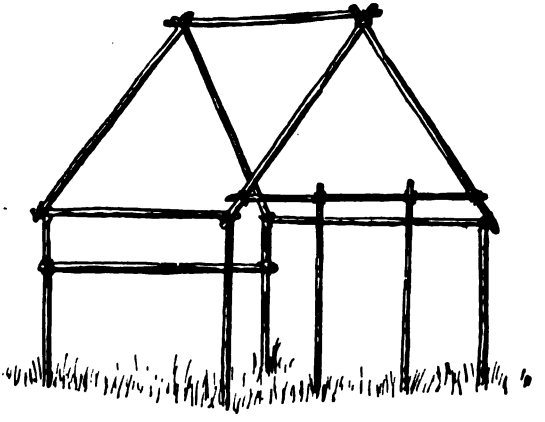


Fig. 19

structed in nearly the same manner as the brush-house, and thatched with grass or reeds as shown in Figs. 16 and 17.

Digitized by Google

The corner-posts are three feet high, the ridge-pole seven feet and six inches above the ground, and the hut may be from five to eight feet square or made oblong, as a matter of choice.

A frame of scantling should be made for this lean-to the same as if a wooden structure were to be built, and it must be nailed together well to stand the strain of the wind blowing hard against it. In general construction the frame should appear like Fig. 19; and to the sticks the edges of the thatched framework of reeds is to be lashed fast with grass, either before or after the thatching is done.

A brush-house or any hut built on or near the ground is not so cool to stay in as one in the trees, but it is, of course, much easier to construct, as the boy builders do not have to move about so carefully when at work, and their materials can be picked up quickly.

Brush huts and houses can be built on the plains where trees are scarce, but in a country rich in woods and forests the boys prefer the tree huts, not only for their cool location, but on account of the romance involved in the climbing up to an inaccessible eyrie.

Digitized by Google

Digitized by Google

Part II

CAMPING FARTHER AFIELD

Digitized by Google

Digitized by Google

Chapter IV

CHOOSING A CAMP-SITE

THIS chapter is written for those who may be termed domestic campers — that is, the small parties of two, three, or four boys whose plans do not extend to long journeys and wilderness camp life. There are thousands of them who leave their homes in towns or villages for a trip of perhaps only a few miles to some lake or river, where they make camp and enjoy a simple, wholesome outdoor life which has the advantage of being near supplies. Such boys will find plenty of useful, detailed suggestions in other chapters. For example, while Dr. Swan's practical advice in the section devoted to organized camps is intended particularly for the organized camps which house large groups of boys, yet every domestic or neighborhood camper should read everything that he says about camp-sites, camp sanitation, and kindred subjects.

Personal Outfit

Later on, in his chapter on "Hiking," Doctor Swan describes serviceable clothing, blankets, etc. Either military khaki or the heavier Dux-bax will be serviceable. But two

Digitized by Google

pairs of strong trousers of any kind will serve, with two flannel shirts, a sweater, two suits of underwear, four pairs of woollen stockings, two pairs of reasonably heavy shoes suitable for tramping, one pair of thick-soled sneakers for camp wear, with pajamas, toilet articles, a drinking-cup, towels, soap, a pocket mirror, a soft-felt hat, a rubber coat or oilskins, and two pairs of medium-weight woollen or mixed blankets, and a rubber blanket to spread underneath. A very convenient way of carrying one's personal belongings is borrowed from the sailor's ditty-bag. In its simplest form this is merely a large canvas bag, water-proofed with linseed-oil, which is tied up at the neck. Regular camping bags of this general description can be bought at sporting-goods and department stores. Often, however, the handles are flimsy and should be replaced with leather. As a general rule, it is well to test one's purchases, as far as possible, whether it is a question of fly rod, or bait rod, or gut leaders, or other articles. And it is desirable not to be led away by newly patented artificial baits, or cheap flies, or the superficial attractions of very cheap split bamboo rods. Sound ash and lancewood rods, or, in some cases, greenheart are more reliable, unless one selects a better-class split bamboo and understands how to care for it. A camera, a field-glass for watching birds, and many other articles are questions of personal tastes.

The selection of a suitable spot in which to build a permanent camp is a matter of great importance, as its situation has much to do with determining the comfort and success of the camp. We should advise that a camp be located near some body of water, unless in a very

Digitized by Google

wild region or existing for the special purpose of studying Nature in some of her many branches. The usefulness of the gun and rifle in camps nowadays is decidedly small, the responsibility of supplying the larder falling principally upon the rod, thus rendering the proximity of a lake not only an advantage but a necessity. There is also a constant need of water for washing and cooking purposes, and it would be a great inconvenience to carry water from any distance to meet these demands. And what would life in camp be without the morning plunge in the cool waters of the lake? or at close of day the moonlight paddle and song far out on its quiet bosom?

Camps on Lakes

The success of a camp is not in proportion to the size of the lake. We passed three most enjoyable summers on the shores of a pond five miles long and half as wide. On a very large lake a high wind will blow up a sea which renders cruising in a light boat or canoe both difficult and dangerous. This extreme roughness lasts often for several days, and in such an event a party encamped on an island, unless provided with a launch or stanch rowboat, would be temporarily shut off from all communication with the mainland. Again, the difficulty of locating and becoming familiar with good fishing-grounds or ledges in a large lake is very great at first, but with local guidance and careful experimenting much can be learned. This is a matter of great importance to campers, who necessarily depend upon fishing to a considerable extent for pleasure and maintenance; and

Digitized by Google

one may as well fish on dry land as cast his line at random in a fresh-water lake.

On the other hand, a large body of water has its advantages. The many islands and channels afford excellent opportunities for exploring expeditions, which are always acceptable features of camp life, while occasional visits to the towns and villages which border on many of our larger lakes tend to break the pleasant monotony of a total isolation from the outside world.

The desirability of camping near a town is often questioned. We advise pitching the tent at that end of the lake farthest from the village. With the exception of necessary visits two or three times a week for mail and provisions, and on Sundays, campers have no business in town. They should rely upon their own resources for amusement, and all food outside of those staple articles which they cannot reasonably be expected to provide. It is desirable, however, that the camp be situated but a few minutes' walk from some farm-house, in order that it may be furnished each day with fresh milk and eggs. The inclination to scoff at any introduction of home comforts into a camp, and the heroic determination to subsist on frogs' legs and condensed milk, are impracticable, and extremely prosy in the reality.

One cannot advise in the selection of a particular spot for a camp as in the choice of a rod or gun. Pick out some flat elevated spot free from dampness but near the shore of the lake. If possible, pitch your tent near a grove of hemlocks or pines, for the dead branches are indispensable as fuel, while the green tips of hemlock twigs, when stuffed into old mattress tickings, make excellent beds.

Digitized by Google

CANOE CAMP ON RIVER

Digitized by Google

River Cruising

One of the pleasantest and most profitable ways to camp out is to cruise[1] the entire length of some attractive river. Since much of the pleasure in such a trip lies in the ever-changing scenery, the occasional visits to the towns and villages through which the river flows, and the preparation of the evening meal, it is not necessary to select a river noted for its wildness.

Our smaller rivers may be divided into two classes, the muddy and the sandy bottomed. There is a monotony about a river of the former class as it takes its winding course, almost hidden by immense marches of sedge-grass. Here the boat-tailed blackbird builds his nest and the muskrat constructs his house well out of reach of the spring freshets. There is nothing to break this monotony except now and then a strip of woods or a muddy bank bristling with forked sticks left by some midnight pout-fisher. The current is sluggish, but extremely hard to paddle against. There are no rapids worth mentioning, but numerous rocks just showing above the surface of the water, and invariably covered with small turtles. There are only two redeeming features to such a river—its lilies and its fish.

In strong contrast to this class is the sandy river which rushes over a pebbly bottom often at a depth not exceeding a few feet, now flowing placidly along, on the one side a heavily wooded bank, on the other waving meadows ex-

[1] See Doctor Swan's detailed explanations of canoeing, Chapter XVII.

Digitized by Google

tending back to the distant hills. Short sets of rapids are numerous, not heavy nor rough, for the water scarce reaches one's waist, but with just that spice of danger which renders running them exciting. As the river widens and the current lessens, announcing the approach of a dam, pickerel and perch may be taken out with a spoon-hook.

If possible, select a river that takes its rise in a large lake or flows into another river. Thus one may start within a few miles of home, and after a river cruise of ten days go into permanent camp one hundred miles away. For example, we started within fifteen miles of Worcester, Massachusetts, and after a one-hundred-and-ten-mile paddle on the Nashua and Merrimac rivers, went into camp on the shores of Lake Winnepesaukee, New Hampshire.

The selection of a suitable place in which to pass the night while on a river cruise is a matter of considerable importance, since much of the real camp life is included in the preparation of the evening meal and camp for the night. This selection should not be delayed too long, lest you find yourselves, with twilight fast coming on, hurriedly paddling along, looking eagerly for any place where you may haul out your canoes for the night. Often during the afternoon you will pass an attractive spot or deserted building on the shores of the river; then, if the day be not too early, stop and make your camp. Time is not so valuable to the canoeist but that two or three hours can be sacrificed for a comfortable camp at night.

Perhaps a few words in regard to running rapids will be a fitting close to this article. In running down a set of rapids bear in mind that unless you move more rapidly than

Digitized by Google

the current you can have no control over your craft. Kneel down in your canoe, and having determined your course, which will naturally be in the channel or quieter part of the river, enter the rapids at full speed. On striking a rock, unless you can instantly free yourself, jump into the river, or your canoe will swing broadside in the current and capsize. Always jump out above the canoe or it will sweep down upon you with unpleasant results. On encountering a long set of rapids while cruising up a river, where a "carry" is impossible, don your bathing-suit and prepare for the worst.

The domestic camping, which is the subject of this section, usually means access to fresh milk and other home supplies. Therefore, it is not necessary to consider the question of supplies so carefully as in the case of a wilderness trip which is planned for in the list given below. But it will be convenient to have some suggestions at the outset before we enter upon the details of camp cookery which are explained for domestic campers later in Chapter VII, and for organized camps and wilderness camps in Part IV.

The list[1] given below is useful as indicating amounts, and also in the main necessities.

Cooking Utensils

If you are to hire a guide, he will supply all the kitchen utensils, but when you expect to do your own cooking the following list of dishes will be found sufficient to prepare all meals for three men on a month's trip:

[1] From *Camp Fires in the Wilderness*, by E. W. Burt, Forest and Stream Publishing Co.

Digitized by Google

Two frying-pans. These can be fitted with two rings under the handle, in which a stick can be inserted to reach over a hot fire.

Two granite iron saucepans. Never take a tin saucepan, as the fire will melt the solder.

Two granite iron coffee-pots, one for making coffee, the other for tea.

Three large iron spoons, six teaspoons, four knives and forks, one wire broiler, six tin cups, six tin plates, one buckwheat spade, salt and pepper shakers, one small lantern to use around camp, six candles, one kerosene-oil can, one cook-oven, called a "Dutch oven." This is the only thing you can make bread with by an open fire. It is made of zinc, V-shaped, about eighteen inches long, with shelf containing a shallow pan. These ovens are faced toward the fire, and the heat from hot ashes will soon make very good bread. Two tin pails are very useful around camp for carrying drinking-water. It is much better to broil meat, fish, or bacon, rather than to fry it, as greasy cooking is unhealthful and soon becomes distasteful, while a nicely broiled steak with a little butter is always acceptable.

Provision Supply

Of all his problems, that of the provision supply is the hardest for the camper to solve, but after many trips I have been able to make a list of the supplies that would be consumed by two men and one guide on a two-weeks trip, and one can add to the list as he may choose. Of course, the amount to be taken depends upon the means of transporta-

Digitized by Google

tion and upon possible additions to the supply *en route* by hunting and fishing. As a rule, only plain, substantial food should be taken. That is the kind you will need. Delicacies should be left at home. Pie and cake are not food for hill-climbing. Bread, meat, vegetables, and fruit are what you need, and these should be of the best quality. Evaporated fruits are so good that it is not necessary to buy canned goods and fill up space with tin and water. Best of all will be found the famous Boston canned beans.

All provisions should be carried in strong canvas bags, tied at the top with a string. Never risk carrying them in paper bags.

List for Three Men on a Two-Weeks Camping Trip

15 pounds hard bread
15 pounds bacon in bag
3 pounds dried apples
2 pounds dried prunes
2 pounds salt in bag
5 pounds sugar
5 pounds coffee in tight can
½ pound tea in can
5 cans condensed cream
6 cans Boston baked beans
3 cans chicken
5 pounds butter
5 pounds lard
5 pounds white flour
10 pounds Indian meal
2 packages buckwheat flour
2 packages oatmeal
½ bushel potatoes
10 pounds onions
1 pound baking-powder
¼ pound pepper
1 quart vinegar
2 gallons maple syrup
1 jar pickles
2 bottles ketchup
2 dozen eggs

The cost of these supplies should amount to about twenty or twenty-five dollars.

Digitized by Google

Chapter V

TENTS AND TENT-MAKING

ARMY tents, only slightly defective, may be bought from dealers in second-hand government supplies. They are made of 10-ounce double-filling army duck, which is the strongest material, and this is the most serviceable cloth if one wishes to make one's own tent, which should be 10 x 12 for a party of four.

The tent is the all-important thing, and to make one large enough for two or three boys is not a difficult matter. What the boy does not know on his first camping expedition, necessity will teach him, and much satisfaction may be had in constructing bunks and tables and the other varied paraphernalia of camp life.

A Tent of Medium Size

Fig. 1 shows a serviceable and roomy tent and fly of medium size, which measures eight feet wide, ten feet long, and seven feet high to the peak or ridge. The side drops or aprons are thirty inches high, and against them on both sides of the tent cots may rest on the ground as shown in the illustration.

Digitized by Google

The fly is ten feet wide and fifteen feet long, and is an extra covering for the tent in case of a hard rain-storm; while in clear weather and with another ridge-pole and upright, it can be used to lengthen the tent by extending it out beyond the front, where it is to be held fast with stakes and stanchion-ropes.

The plan shown in Fig. 2 gives the dimensions of canvas, and when the final sewing is done the edges C C at both ends of the tent are brought together and securely overcast with stout waxed cord.

The only openings are at front and back, and they can be closed by means of tabs and button-holes at one side, and large bone buttons made fast to the other edge in a corresponding position to the tabs.

Where the iron pins of the uprights project through the canvas, make a circular patch at least six inches in diameter with two or three thicknesses of the canvas, and sew it fast both at the hole and around the outer edge. This will strengthen the canvas at the most vital point, and prevent it from tearing if a heavy wind should strain the tent.

Twilled cotton sail-cloth is the proper material of which to make the tent, but if this cannot be had, then a stout quality of unbleached muslin will answer very well for clear weather; but in wet weather it will not shed the water so well as the twilled duck. The seams can be sewed on a machine, but they will be much stronger if sewed by hand with white cotton cord well waxed. All the edges of the cloth should be bound with rope about the size and strength of clothes-line, so that any attachments made to the edges

Digitized by Google

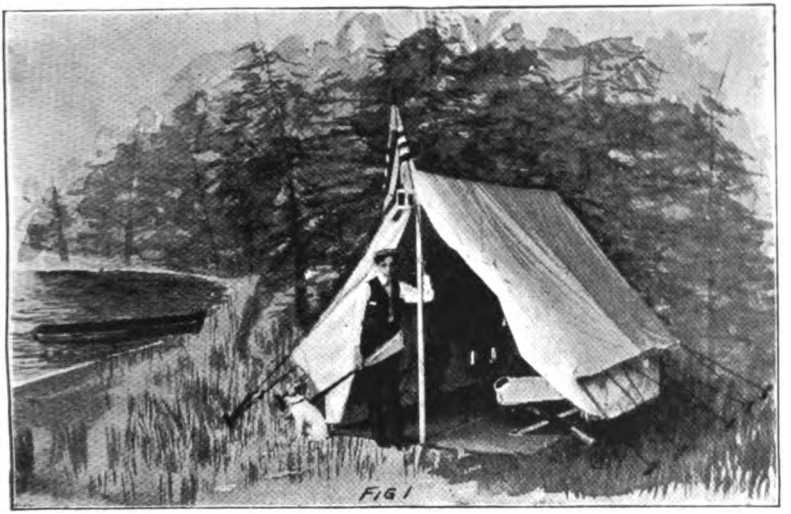


FIG 1

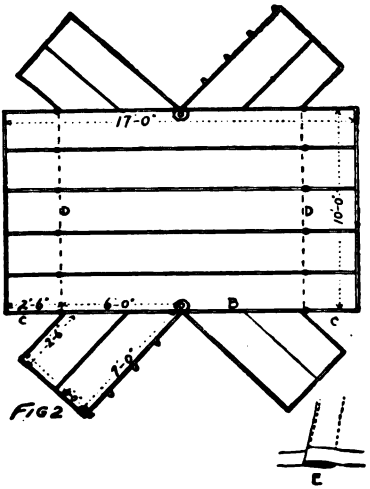


FIG 2

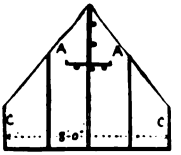


FIG 3

FIG 4

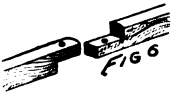


FIG 6

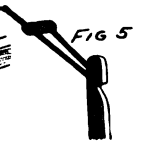


FIG 5

A TENT OF MEDIUM SIZE

Digitized by Google

will be borne by the rope instead of all the strain coming on the canvas.

On the dotted lines D D in the plan, which indicates the inner edges of the aprons, one-inch harness-rings are to be sewed on the straps, through which to reave the guy and stanchion ropes. There should be four straps to this tent, making five strips of canvas two feet wide; and these strengthening straps are three-quarters of an inch in width, and made by lapping the canvas over and sewing it along both edges as shown in the little diagram marked E below the plan in Fig. 2.

If a closed end is preferred instead of the flaps at the rear of the tent, a back, in one piece, as shown in Fig. 3, can be made and sewed all around the edges, bringing the edges A A against the edge B, and joining the vertical edges C C to the ends of the side aprons on the main sheet.

For ventilation, a flap opening may be made at the top of this end as you can see in Fig. 3; and with tabs and buttons this can be closed when necessary, or tied back with strings, either to the inside or outside of the tent, where they should be caught to small harness-rings sewed to the canvas.

The fly is bound with rope all around the outer edge, from which ropes extend out from each end, so that in hot weather, if the sun plays on the tent, it may be kept cool by raising the outer ends of the fly and propping them up with poles at the four corners, and perhaps one extra one at the middle of each side. (See the illustration for the canopy over the table and seats, Fig. 10).

The ridge-pole to hold up this tent is of pine or spruce,

Digitized by Google

ten feet long, one inch and a half thick, and four inches wide. The uprights are two inches square, with the sharp corners planed off, making them octagonal in shape, and they should be from seven to nine feet in length. The upper ends of the uprights are bound with cord or an iron band to prevent them from splitting when the iron pin is driven in place. They are to be bored to receive a half-inch pin, so that eight inches of it will project above the top of the upright as shown in Fig. 4. Five-eighth-inch holes are bored in the ridge-pole one inch and a half from each end, and through these the pins in the uprights will pass.

The stanchion-ropes are caught around the heads of long pegs or stakes, twenty-four inches long, two inches wide, and one inch in thickness, with a notch cut three inches from the top as shown in Fig. 5. Cleats four inches long, two inches wide, and seven-eighths of an inch thick are provided with two holes through which the stanchion-ropes pass, and they are used to draw the ropes taut, as shown in Fig. 5, where the strain on the long rope pulls the short end down and chocks the rope.

The stakes are to be driven into the ground so that but five or six inches of them project. The lower they are the better purchase they get in the ground and the more securely the tent is anchored.

The extra ridge-pole for the fly can be cut at one end so that it will lap in a corresponding manner on the front end of the tent ridge-pole as shown in Fig. 6. For long tents, where it is necessary to have the sticks in short lengths, for convenience in carrying them, the ridge-pole can be in two

Digitized by Google

or three pieces, lapped together at the ends as shown in the figure drawing, so that the pin in the upright will complete the union.

When erecting the tent, dig two holes for the uprights to rest in, and embed them so that seven feet of pole will be above the ground, on which the ridge-pole will rest, and in turn the canvas covering. The stakes are driven three feet out on either side of the aprons so that the stanchion-ropes will line with the pitch of the tent.

A Large Camping-tent

For a company of boys numbering from four to eight a large camping-tent is shown in Fig. 7.

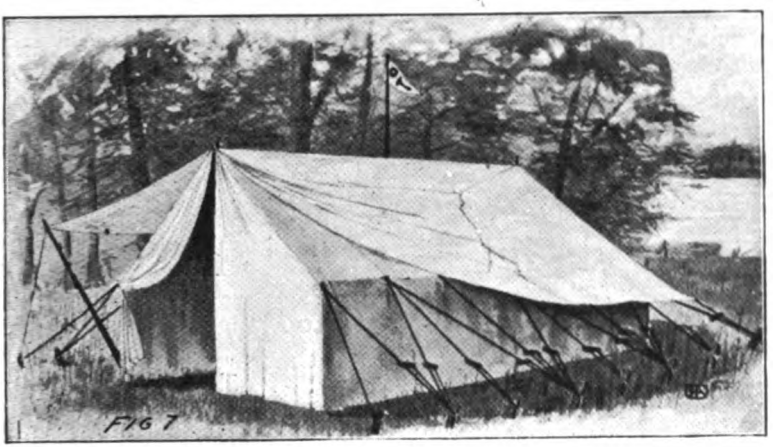
If it is made twenty feet long, ten feet wide, and eight feet high to the ridge-pole, it will accommodate six cots and two hammocks swung from the ridge-pole.

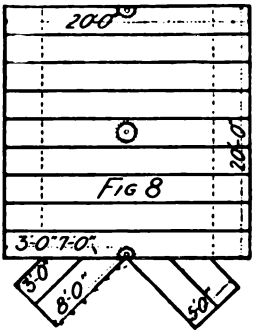
A plan by which to cut the cloth and make the tent is shown in Fig. 8, and in Fig. 9 the plan for the back is given. If an open back be preferred, the flaps shown at the bottom of Fig. 8 may be duplicated at the rear of the tent.

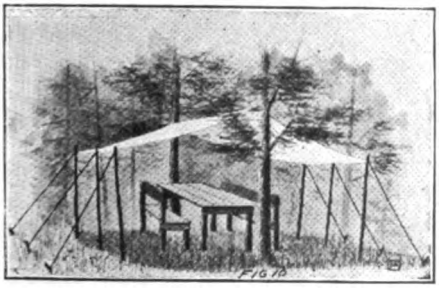
This tent, when erected, is twenty feet long and eight feet high from the ground to the ridge-pole, with the aprons at the sides three feet high instead of thirty inches as in the smaller tent. Three uprights two inches and a half square support the ridge-pole, which for convenience of transportation may be in two pieces and lapped at the middle as shown in Fig. 6.

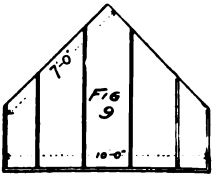
This tent is made in the same manner as described for the smaller one, and a fly twenty-two feet long and eighteen feet

Digitized by Google









Digitized by Google

wide is supported over the tent where, in clear weather, it can be propped up at the outer edges as shown at the left side of the illustration. The fly is drawn back at the right side to show how the guy and stanchion ropes are attached to the stakes, so as to prevent the wind from blowing the tent backward and forward as well as from side to side.

A flag-pole four feet high may be erected on the middle upright by leaving the pin at the top longer, so that it will extend up and into a hole bored in the lower end of the flag-pole. The lower end of the pole must be bound with cord or wire to prevent splitting. A small pulley at the top, and a set of halyards, will make it possible to raise a club flag or pennant.

All around the lower edge of the tent one-inch galvanized rings should be sewed fast about twelve inches apart. Through these the apron and ends may be tied fast to short stakes or wooden pins driven in the ground. This will be quite necessary in the event of a storm or strong wind, as otherwise the lower part of the tent will blow up and flap around in a disagreeable manner.

When erecting a tent of this size, care should be taken to anchor it securely and brace it well with the stanchion and guy ropes, for its size offers considerable resistance to a strong wind. A little care and forethought will sometimes avert a catastrophe with a tent, and when erecting one do not trust anything to luck, but snug your tent and keep ropes taut.

If it is possible to get some boards and a few joist, it would be well to make a flooring, if you are to stay in one place for any length of time.

Digitized by Google

Always select a level, dry place for the tent, and if possible erect it on ground that is slightly higher than that around it so as to drain the surface-water away.

Flies and Canopies

Every camping-tent should have a fly—that is, an extra canvas roof—for no matter how good the canvas of which it is made, it will become thoroughly soaked in a heavy rain; but if protected by a fly the latter will lead the water off and receive the greater part of the wetting. Such a fly is shown clearly in the illustration of the large camping-tent. Fig. 7.

The fly should always be a trifle wider than the tent is long, and in length it should be long enough to cover the roof of the tent and extend a foot or eighteen inches beyond the sides, where it rests on the stanchion-ropes and is lashed fast to pegs in the ground. The overhang, or extension, leads the water out beyond the apron of the tent and prevents the ground from becoming wet close to the tent.

Another use for this overhang is to prevent the rain driving against the aprons of the tent and wetting them close to the cots. In fair weather, when it is possible to dine outside the tent, the fly can be used as a canopy, if drawn over a ridge-pole and held up at the ends by means of poles and stanchion-ropes.

A canopy of this kind is shown in Fig. 10, where it is erected over a table and seats. It is always well, indeed, to have two flies to a tent, so that one can be used for a canopy

Digitized by Google

or an auxiliary tent, under which a fire can be built and meals cooked and eaten when it is raining.

For a small camp a fly or canopy, twelve feet wide and eighteen feet long, will prove very useful in many ways; but for a larger camp it should measure fifteen by twenty-five feet. Under one of this size a party of ten or twelve people can be comfortably seated, with plenty of room all around.

Flies or canopies should be bound with rope all around the edges, and at distances from twelve to eighteen inches apart three-quarter-inch galvanized rings should be made fast. Through these stanchion-ropes may be reared wherever it is necessary to attach the sheet to branches or poles set in the ground.

A House-tent

One of the latest features in the modern camp is the house-tent, in which the lower part is floored and boarded half-way up, while the balance of the sides and the roof are of canvas. This style of camp-tent has become very popular in California and through the Southwest, where at least six months of each year are spent out-of-doors. For the boys who are about to build a permanent camp for several years' use, a house-tent such as shown in Figs. 11 and 12 will prove very satisfactory, and more desirable than the plain pitched tent.

Fig. 11 shows the house-tent closed in stormy weather or at night, while in Fig. 12 the house is open for fair-weather living. One wooden side is let down to form a piazza, and the canvas side above it is propped out with poles so as to act as a canopy or sunshade.

Digitized by Google

The frame is twelve feet long, eight feet wide, and nine feet high from the roof to the peak. The wood sides are three feet and six inches above the floor, and out beyond the sides of the house the joist may extend to support one or both of the wooden sides, which can be let down by means of hinges along the bottom. When the sides are lowered

they act as piazzas and nearly double the floor space of the house-tent; while the canvas sides, when propped out with long, slim poles, add equally to the roof area in the way of sunshades.

In Fig. 13 a clear idea is given for the framing, which is of spruce planed on the four sides. The uprights and rafters are of two-by-three-inch stock, while for the under timbers two-by-four or preferably two-by-six rough stock can be used. The joist or flooring beams rest on the ends of posts embedded two feet in the ground, to which they are spiked with long, steel-wire nails. The flooring, of four-inch matched boards, is laid on the space within the four corner uprights, and the same or wider boards may be employed for the sheathing.

Digitized by Google

If both sides are to let down, a window can be set only at the back of this house-tent; but if only one side lets down the window may be arranged at the enclosed side between uprights the same as the rear window is placed.

The triangular end-pieces of canvas are attached to the frame with copper or tinned tacks, so that they will not rust, and the roof and both sides are of one piece made by sewing together lengths of canvas or twilled sheeting. At the front and back it is drawn over the edges of the end rails, forming the roof, and tacked to hold it in place.

At the front, on either side of the doorway, the canvas may be arranged to roll up in clear weather. The rolls are held to the upper frame-bar with cord or straps as shown in Fig. 12.

The front door is thirty inches wide and is made from boards and battens, and provided with a knob lock by means of which it can be opened from either side.

The side that lets down to form the piazza is battened on the outside, as may be seen in Fig. 11 where the house is closed. When the side is down the battens drop in between the extended floor joist or beams.

Folding-cots can be used in this house, or bunks may be built in against the side and end—two at the side and one at the end under the window. When the drop-side is up and fastened for the night, another cot can be placed at that side, while from corner to corner a hammock may be swung.

When camp is broken up in the fall the canvas is to be removed from the framework and kept for next season, but the frame may be left standing. It would be better to

Digitized by Google

remove the door and sashes and slide them under the floor, for they would offer too much resistance to the wind if left standing in place, and might break or cause the framework of the house to rack and become rickety during the winter storms and high winds.

A coat or two of paint on the wood-work will improve its appearance greatly and preserve the wood, if the house is to be used for a number of seasons.

The New Tent

One great drawback to the pitched or army tent is that in wet weather, when one has to stay in-doors, it is not a comfortable abode unless you sit down or keep close to the ground, for there is little or no head room.

In the illustration of the new tent with French roof (Fig. 14) you can readily see the great advantage of this new method of construction, for it affords a great deal of head room.

Two uprights, three ridge-poles, and four angle-bars will be required for the frame, and some long, slim poles with crotched ends can be cut to prop the guy-ropes out from the tent as shown in the illustration. For a party of three or four boys this tent should measure seven feet and six inches high, six feet and six inches broad at the top, eight feet at the bottom, and ten or twelve feet deep. The sides and top are in one piece, twenty-one feet long and ten or twelve feet wide. The rear end is made in one piece and sewed fast to the edges of the sides and top.

At the front two flaps are sewed to the top and sides.

Digitized by Google

They each measure seven feet and six inches long at the inner edge, four feet across the bottom, three feet and five inches at the top, and seven feet long at the outer edge. They are cut as shown in Fig. 15 A, and when the tent is set up the canvas will appear as shown in Fig. 15 B.

The frame is composed of two uprights two inches square and nine feet long, eighteen inches of which is set into the ground. There are three ridge-poles two inches in diameter and ten feet long; and four brace-bars two inches square, four feet and three inches long, bevelled at the lower ends to fit against the upright post as shown at Fig. 16 A. An iron pin (Fig. 16 D) is driven in the top of each upright and at the outer ends of the brace-bars over which the ridge-poles fit, they having been provided with holes for the purpose. Angle-irons are screwed fast to the bevelled ends of the brace-bars, and a collar of iron is made and screwed to the uprights so that the tongue end of the angle-irons will fit in them as shown at Fig. 16 B. Stout screw-eyes and wire hold the braces in position at the top, as shown at Fig. 16 C, and so prevent the outer ridge-poles from straining the canvas.

One of the best anchorages for the guy-ropes of a tent is made with the lock-stake and deadeye cleat shown at Fig. 17 A. A stake with a notch to hold the rope is driven into the ground, and another notched stake is driven in close to the head, so that when in far enough the notch in the latter will hold the head of the former as shown at Fig. 17 B. The deadeye cleat is cut from hard-wood seven-eighths of an inch thick, and is two inches wide, six inches long, and provided with two holes three inches apart. At one end a

Digitized by Google

FIG 14

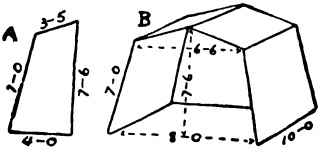


FIG 15

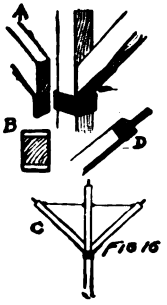


FIG 16

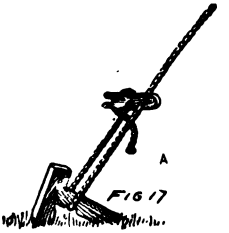
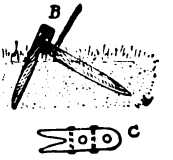


FIG 17



Digitized by Google

jaw is cut, so that a rope may be caught in it as shown in Fig. 17 A. Steel-wire nails are passed through the holes indicated by the dotted lines in Fig. 17 C, and riveted at the point ends to strengthen the deadeyes.

The manner in which it is used is shown at Fig. 17 A, and if the holes are made the same size as the diameter of the rope, the harder you pull on the tent end of the rope, the more securely the deadeye cleat holds, and the loose end of the rope caught first in the jaw can be given a turn or two around the cleat to make it fast.

The double-peg anchorage is better than a single one, and with this new rope-fastener it will be an easy matter to stay a tent to withstand any wind-storm.

Digitized by Google

Chapter VI

HOW TO FIT OUT THE CAMP

IF there are balsam trees near camp the majority of old campers will recommend a bed of small balsam boughs, neatly and smoothly thatched, with the points toward the head. Over this put a rubber blanket and one woollen blanket. A strong pillow-case can be stuffed with balsam twigs, hay, or anything suitable. Sleeping-bags are not recommended for summer camping.

But cots are very useful. Folding cots can be bought, or cots may be made either of canvas and poles or of boughs and leaves. The canvas cot may seem to some more comfortable than boughs, but it is not always available.

A simple canvas cot is easily made from two pine or spruce sticks seven feet long, two inches in diameter, and free from knots or sappy places. A piece of light canvas or twilled cotton duck fifty-four inches wide and seventy-two inches long is sewed together so as to form a cylindrical case thirty-six inches wide and seventy-two inches long. Lay it flat and crease it along the edges, then run two or three lines of stitching along both sides four inches in from the edges. This forms the sleeve through which the poles are to be passed.

Digitized by Google

Crotched sticks are to be embedded in the ground to support the ends of the poles as shown in Fig. 1. These are to extend a foot or eighteen inches above the ground, and should be three inches in diameter and quite strong, so as to avoid breakage and a possible fall.

If a folding-cot with portable ends is desired, it can be made to appear as shown in Fig. 2 by constructing two folding ends, a middle pole, and four iron brace-hooks.

To make the cot twenty-six inches wide, procure the can-

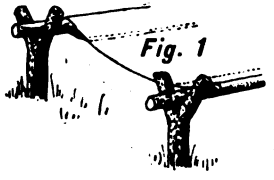


Fig. 1

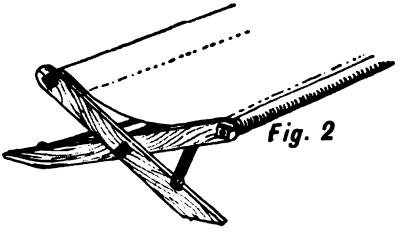


Fig. 2

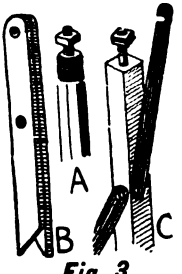


Fig. 3

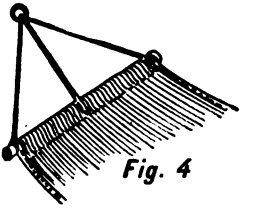


Fig. 4

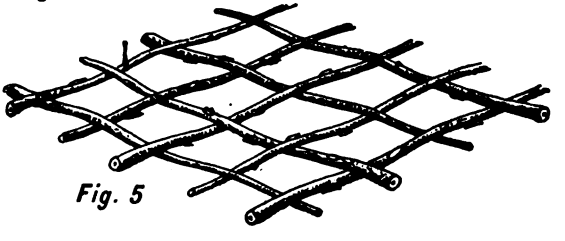


Fig. 5

Digitized by Google

vas and poles as directed for the first cot. Bind the ends of the poles with wire or have a blacksmith band them with iron ferrules, then bore the ends and drive threaded pins in, having nuts at the ends as shown at Fig. 3 A. From maple or oak two inches wide and an inch thick cut four legs thirty-two inches long, and bore holes at one end and midway between ends, as shown in Fig. 3 B, to receive the bolt ends in the poles. Bevel off the lower ends of the sticks and place them in opposite directions, so that when opened, in the form of an X, the ends will lie flat on the ground as shown in Fig. 2. From pine or spruce cut a stick two inches square, and provide the ends with bolts and nuts as shown in Fig. 3 C. This is for the under brace, and extends from end to end where the bolt passes through both legs, and is attached with a nut and washer.

From iron an inch wide and less than a quarter of an inch in thickness have a blacksmith cut four hook-braces eighteen inches long with a hole at one end and a notch at the other. With round-headed screws attach two of the braces near each end of the pole, as shown in Fig. 3 C, so that when the cot is set up the notches will hook over screws driven in the upper edge of each leg near the bottom as shown in Fig. 2. These will steady the cot, and prevent it from rocking from end to end as it would do if not braced.

A hammock that can be swung between the uprights of a tent is made of canvas thirty inches wide and seventy-two inches long. It is lapped over at the ends and sewed with several lines of stitching, so as to receive a two-inch bar to which the three ropes are made fast as shown in Fig. 4.

Digitized by Google

The end ropes should be twenty-four inches long and the middle one eighteen. From the bars at each end they are brought together and bound to rings which slip over hooks made fast to the tent uprights, or they can be lashed fast to the uprights. Any number of these hammocks may be made and easily carried, as they roll up snugly and occupy very little room in a bedding-kit. They are much easier to handle than a woven or braided hammock, the strands of which are forever catching in everything and anything with which they come into contact.

When making a cot of boughs the most satisfactory and comfortable affair is the basket-woven or lattice mattress of small, pliable saplings trimmed and interwoven as shown in Fig. 5. The long pieces should be alternated so that the large end of one stick will be next the small end of another, and thus distribute the strain evenly over the lattice. This arrangement applies also to the shorter or cross-pieces, and when finished the mattress is laid on a pair of poles supported with crotched sticks, as shown in Fig. 1, but without the canvas.

Over this lattice short twigs with clusters of leaves are spread, to make a soft mattress, and on these in turn a blanket or two can be spread and tied down at the corners, so that the leaves may not become dislodged.

Tables and Benches

Every boy should know how to make a table from some fence boards, a rail or two, and stakes for the legs. The table shown in Fig. 6 is made from three boards about

Digitized by Google

eight inches wide and five feet long battened together at the ends and across the under side of the middle.

A rail is nailed across two tree-trunks thirty-two inches from the ground, to which one end of the boards are attached. Two stakes three inches thick are driven in the ground four feet from the trees, and across the upper ends of them a rail is nailed fast to support the other ends of the boards.

A larger table is shown in Fig. 7, and like the smaller one it is built against two trees. The boards, three or four in number, should be from six to eight feet long. They are nailed fast to four or five inch rails attached to the tree-trunks and to stout posts embedded in the ground. The middle of the table is supported by a batten, or rail, which is nailed fast to the top of a post embedded under the centre of the table.

Chairs made for camp life from rustic wood and pieces of board need not be so well constructed that any great amount of time should be expended on them, but they should be strong and serviceable.

A simple chair that any boy can make from branches or small tree-trunks, two or three inches in diameter, is shown in Fig. 8. The seat is eighteen inches high, sixteen inches square, and the back posts are thirty-six inches high. Two pieces of wood, eighteen inches long, are cut as shown at Fig. 9 A, and two more, thirty-six inches long, are cut as shown at B. The laps are cut out with saw and chisel so as to receive the seat-rails, the braces, and the back board, which are made fast with steel-wire nails as shown at C. The seat is made of ordinary boards nailed to the top edges

Digitized by Google

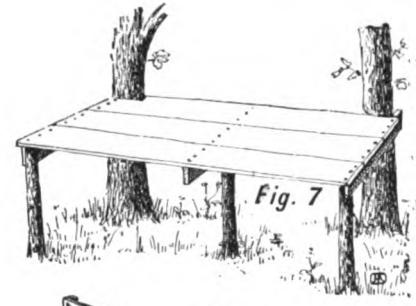


Fig. 7

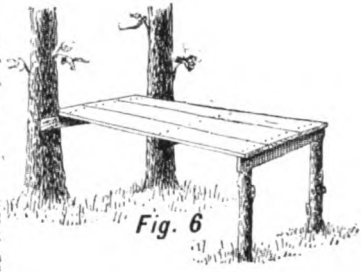


Fig. 6

Fig. 8

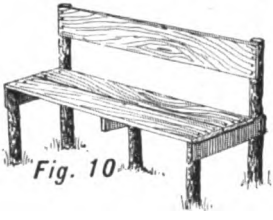


Fig. 10

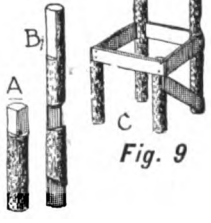


Fig. 9

of the rails all around, and if the edge is smoothed off there will be less liability to tear one's garments.

In the illustration of a canopy (Fig. 10, page 55), a table and benches are shown. The table is thirty inches wide and five feet long, and it can be built either detached or fast to the ground. If the corner-posts are embedded a foot or eighteen inches in the ground it will make the table firmer and less liable to rack than if built loose or detached.

Two benches running the length of the tables are made in a similar manner to the chairs, but if the corner-posts or legs are to be embedded in the ground the side braces will not be necessary. The seat should be eighteen inches high, sixteen inches wide, and from five to eight feet long, as occasion requires, and with a middle brace it will appear as shown in Fig. 10.

Digitized by Google

Camping Equipment

In fitting out for a camping expedition it is always best to make a memorandum of the things you will need some time before you start, for so surely as you do not do this there will be some important things forgotten. The stuff that will fill an ordinary clothes-basket should be enough for a company of four boys, but for a greater number the supply must be increased accordingly.

In this list there must be included a kettle, two pans, tin or enamelled dishes, a frying-pan or two, a broiler, a wooden pail for water, and smaller tin pails; a lantern, candles, matches in tin boxes, hatchet or axe, blankets, knives and forks, spoons, and a few other culinary accessories. The dry groceries will have to be taken from home, unless they can be purchased near the camp or from some farm-house. From the latter it is generally possible to obtain butter, milk, eggs, a chicken or two, and other food that you may stand in need of if hunting or fishing fail you.

In Fig. 11, showing a corner of the tent, a portable table is supporting some of the things it would be well to have in camp, and while a boy may think that he knows what is wanted, it would be well for him to take his mother's or older sister's advice on the subject.

Lockers and Mess-kits

Lock-boxes with handles, in which to store dry groceries and foods, and mess-kits for the kitchen and dining ware, are among the most important parts of the camping outfit.

Digitized by Google

They may be made from ordinary well-constructed boxes, and provided with hinged lids, a hasp and padlock, and handles at either end by means of which they may be carried easily.

The lock-box shown in Fig. 12 A is eighteen inches wide, twenty-four inches long, and twelve inches deep, and with two thin boards four compartments are made as shown in Fig. 12 A. A lid is made of three boards and two battens, and securely attached to the box with strap hinges.

A hasp and padlock as well as two handles can be purchased at a hardware store and screwed fast to the chest.

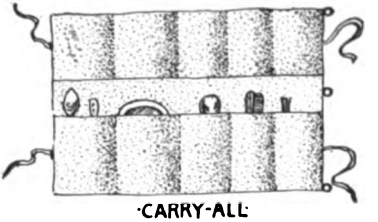
A mess-kit may be made of a box with both lid and bottom nailed on securely. It is then sawed around three inches from one side, dividing it so that quite a little of the wood is fast to both sides. With hinges these are fastened together like a Gladstone bag, and on the inside, pockets and straps can be arranged to accommodate cooking-utensils and food-stuffs. Fig. 12 B shows this kit, and with a trunk-strap and a rope it can be easily carried from place to place.

For knives, forks, spoons, kettle-lids, and other small paraphernalia of the camping outfit a nest of pockets may be made from denim or unbleached muslin, like the one shown hanging on the wall in Fig. 11. The pockets are commodious and will accommodate many little things, and the nest can be folded over and tied at the corners with stout cord. A nest of this description should be three feet long, thirty inches high, and with three lines of pockets as shown in the illustration. The sewing should be done by hand with heavy linen or carpet thread, so that the stitching will not break.

Digitized by Google

Fig. 11

Fig. 13



CARRY-ALL

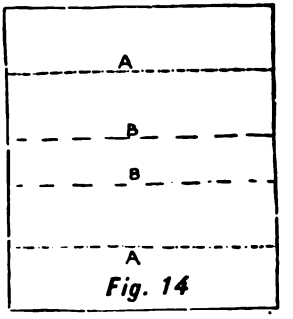
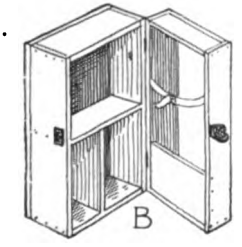
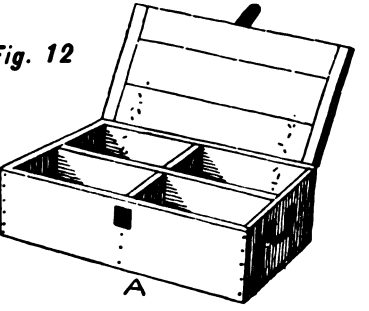


Fig. 14

Fig. 12





A carry-all (Fig. 13) is made of denim or light sail-cloth, and will be found the most convenient sort of a catch-all, for it may be folded over and rolled up, then bound with a shawl-strap to carry it easily.

Digitized by Google

A piece of denim a yard wide and forty-two inches long is folded at the dotted lines A A as shown in the plan (Fig. 14). The edges will then reach the lines B B. Sew the flaps at the two ends and divide the long pockets into smaller ones as shown in Fig. 13. Knives, forks, spoons, and a variety of small things can be kept in this nest of pockets, and when in camp it may be hung from one end by rings, so that the pockets occupy a horizontal position and the contents can be easily gotten at.

Digitized by Google

Chapter VII

CAMP-FIRES AND SIMPLE COOKING

HERE is a simple camp range which "Nessmuk" and many others have approved. Two logs six feet long and eight inches thick are laid side by side some eight or ten inches apart at one end and four at the other. They are bedded firmly, flattened on the inside, and levelled on top. A forked stake is driven in at either end of the space, and a cross-pole laid on for kettles. Start the fire with fine kindling and dry hemlock bark, keep it up with short sticks of black birch, hickory, sugar maple, yellow birch, or red birch.

The permanent camper can make a stone stove similar to the one shown in Fig. 1. This holds the fire within the stone enclosure, and retains the greater part of the heat.

Flat stones should be used in the construction of this stove, and if it is possible to get some clay from the bed of a brook it can be used in place of cement for sealing the joints. This of course will make the fire burn better, as the only draught will then enter at the bottom, or doorway, through which the sticks are fed to the fire.

These doorways or draught-holes should be made on two or three sides of the stove, and when one is in use the others may be closed or left open, according to the

Digitized by Google

strength of the wind and the direction from which it is blowing.

The pot should be hung on the ridge-pole so that it touches the top of the stove and holds in the heat. Fish may be fried in a pan or broiled much better than over an open fire, and water can be boiled quicker and coffee made easier.

This stove can be made either round or square, and if bricks are available for use they will be better than stones as the joints are closer and they are not so ungainly to handle. Over the stove a ridge-pole or bar should be supported on a yoked stick at one end and a twin-stick tripod at the other. The yoked or crotched stick is embedded in the ground, or it can be the sawed-off stump of a small tree. The lower ends of the twin sticks should be let into the ground for a foot or eighteen inches, so that the ridge-bar can be removed without its supports falling over.

Always build a fire or a stove in the shade, for it will not burn so well if the sun plays on it. In rainy weather a canopy over this stone stove will keep it dry and cause it to burn better than if exposed to the elements.

Here are some other ideas for camp-fires proper. Let us suppose that the party is provided with the necessary utensils for camp-cooking—a camp-kettle, coffee-pot, frying-pan, saucepan, and some sort of baking-pan. These should prove sufficient, unless the party intends having quite elaborate menus. If it is intended to remain at the camp only while cooking one or two meals, make your fire in this manner: Cut two green poles about five or six inches thick and about two feet long. In these cut notches about a foot

Digitized by Google

apart. Level the ground where you intend to build your fire, and lay these poles down with the notches up and about three feet apart. Now cut two or three poles about four feet long and lay them in these notches. Gather a good

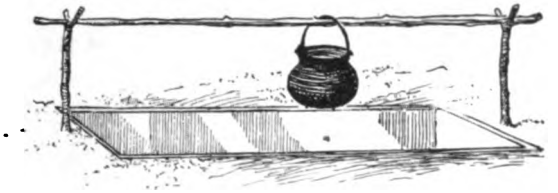


Fig. 2

Fig. 1

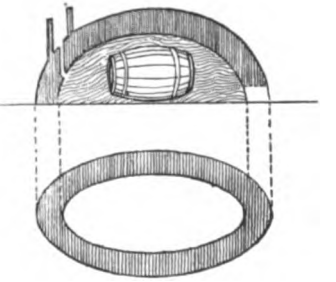


Fig. 3

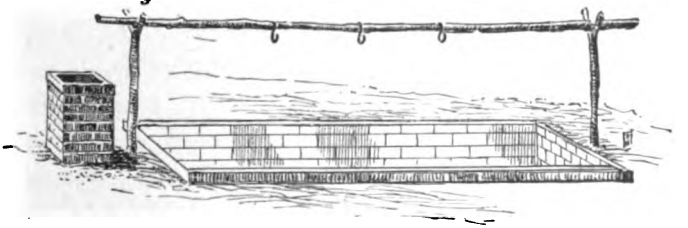


Fig. 4

Digitized by Google

supply of dry wood, grass, bark, or chips, and make your fire on the ground between the poles. The air will circulate under and through the fire, and the poles will prove just right to set your cooking-utensils on. Do not pile on wood by the armful. Add a little at a time, and you will find you can cook rapidly and well, and not burn your face and hands while attending to your cooking.

If it is intended to remain several meals at the camp it will pay to put up a crane. This is built in this manner: Cut two green posts two or more inches thick and three feet long, having forks at one end. Drive these into the ground at each end of your fire. Cut another green pole the same diameter and long enough to reach between the forks. Flatten the ends so that they will set snug in the forks.

The poles should be driven into the ground so that when the bail of the kettle is slipped on the crane the bottom of the kettle will just clear the fire.

If the camp is to be of a permanent nature, or it is expected to remain there for some days or weeks, it will be well to arrange for a better kitchen that will not be affected by the winds, the *bête noire* of camp-cooking. Dig a trench (cutting the sides square) as long as the distance between your uprights, and about eighteen inches wide and a foot deep. Make your fire in this hole, on the ground, and you will find that the wind will not worry you one-half as much as before (Fig. 2). If you wish to take the trouble, and the material is handy, the plan in Fig. 4 is a most excellent one to follow. Wall up the sides of the trench with brick, add a little chimney at one end, and get several iron "S" hooks from which to suspend your kettles. This will save the lifting of

Digitized by Google

the crane every time you wish to handle the kettles suspended over the fire. By this method you will economize on fuel and save heat.

The plan used in the army for camp-cooking and described below is the best for all-around work. To make this kitchen takes more time and a little more labor, but in the end the laborers will be well paid for their work. It is particularly adapted for clayey soil. Dig a hole about three feet square and two feet in depth, generally in the slope of a hill. On one side run a shaft laterally, about one foot square and six feet in length, and one foot from the surface of the ground. At the extreme end sink a shaft vertically and form a chimney, and at equidistances pierce holes of sufficient diameter to prevent the kettles from slipping through. By this mode the kettles can be placed over the fire to boil, or on the side to simmer, with less difficulty than by any other means. Fig. 5 A and B.

I want to tell the young camper how to bake his own bread in camp, so if he camps far from a store or house where he can buy his bread he will not have to eat crackers, or those indigestion-producers, flapjacks, that the youthful camper knows how to make, or thinks he does. I have eaten many a one in my young days before putting on the "army blue," but their weight in gold would not induce me to eat some that I swallowed as a boy and thought "fine." We will assume that before going into camp your dear mother has taught you how to mix a batch of dough or a pan of biscuit. We will now make an oven in which to bake the bread or biscuit. A bank from four to six feet is the best for the purpose. Dig down the bank to a vertical face, and at

Digitized by Google

the base excavate a hole, say three to four feet horizontally, care being taken to keep the entrance as small as possible. Hollow out the sides of the excavation and arch the roof,

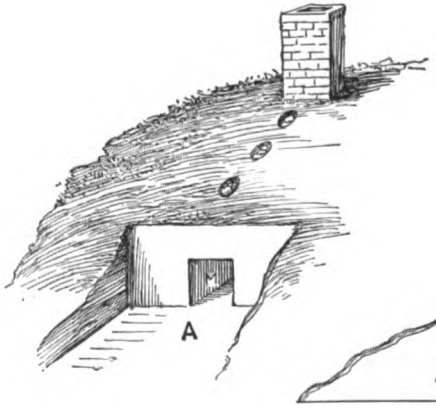
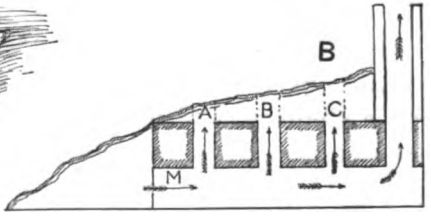


Fig. 5



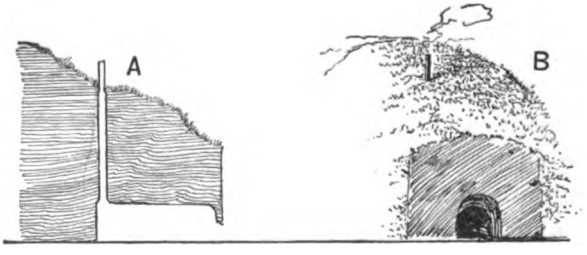


Fig. 6

till the floor of the oven is about two feet wide and the arch about sixteen inches at the centre. Fig. 6 A and B.

Now carefully "tap" the back end for the chimney, and insert a piece of stove-pipe if handy. A hole from four to six inches will give a good draught. Wet the inside of the

Digitized by Google

oven, and smooth over the walls so that the mud presents a hard finish, and leave to dry for a day. When you are ready to bake, build a good fire in the oven, and when it is well heated remove the fire, scrape out all ashes, and place the pans of dough inside. Close up the entrance with a board, and cover with mud so as to keep in all the heat. With proper care this oven will last several weeks.

A bank may not be handy in which to build an oven of the kind described above; if such proves the case, it is not a difficult matter to construct a good oven on the level ground by following the method below. If a flour-barrel is handy, use it; if not, make use of willow twigs stuck in the ground and bent over so as to form a mould. Over the barrel or willow mould plaster a stiff mortar made of mud, commencing at the base. Lay it on about six inches thick. Allow it to dry for a day or two, and when nearly dry cut out a door at one end and the flue at the other. A small mud chimney will increase the draught if a piece of stove-pipe is not at hand. If a barrel has been used as the mould it may be burned out without danger to the oven. Carefully remove all dirt, and keep up a fire for half a day before attempting to bake. Fig. 3. (See page 77.)

Camp-cooking

Even the finest of camps is a dreary place unless the commissary department is well organized. "Uncle Harry," who is an old and experienced camper-out, gives some useful suggestions to his nephews, and other boys will doubtless appreciate his lectures on things culinary.

Digitized by Google

"Let us suppose," begins Uncle Harry, "that you have gotten the camp into ship-shape order, and after your hard day's work are ravenously hungry and very impatient for supper, or rather dinner, for the last meal of the day in camp is always the most important one. We will appoint Aleck as cook, and while he is busy over the fire neither of the others shall interfere with him or his duties, for no axiom is more true than that 'too many cooks spoil the broth.'

"Ben and Bob must see that the cook is well supplied with water and has plenty of small-split firewood close at hand. Then Bob will set the table, while Ben goes a-fishing and catches half a dozen trout or other small fry from the lake. In the mean time Aleck has pared and washed a dozen potatoes. These are placed in a kettle nearly full of water, and hung over the fire half an hour before supper-time. He will keep them boiling furiously until he can run a sliver of wood easily through the largest one. Then the water must be drained from them, and, still in the kettle, they must be set aside, but near enough to the fire to keep hot until wanted.

"Ben's fish all weigh less than a pound, and so are too small to do anything with but fry. After they are cleaned, Aleck rolls them in corn-meal and lays them carefully in the frying-pan, which is already on the stove, and in which a small quantity of cotton-seed oil is sizzling merrily. If you should have no oil, pork fat will do nearly as well, only have it boiling hot before placing the fish in it.

"Aleck has heard of half a dozen methods of making coffee, and hesitates before deciding which to try. He has been told to put his coffee in cold water and let it come to a

Digitized by Google

boil, and that the coffee must not see the water until it is boiling; he has heard that coffee must never be boiled, and that the only way to extract its strength is to boil it; and so in thinking it all over he is much perplexed. Finally he remembers a method which his old uncle who is in the army has mentioned to him, and decides to try it."

"Oh, Uncle Harry, you are not a bit old," interrupts Aleck.

"In preparing coffee by his old uncle's method," continues Captain Archer, only noticing the interruption with a smile, "Aleck fills the coffee-pot with water, and sets it on the broiler wires, which he has laid across from one log to the other of the stove. While it is coming to a boil he measures out his coffee at the rate of a heaping table-spoonful for each cup to be made, puts it into his tin cup, pours in all the hot water it will hold, and sets it in a warm place on the stove. As soon as the water in the coffee-pot boils, he pours off some, so as to leave the pot about three-quarters full, and empties in his cupful of soaked coffee. Setting the pot back, he allows its contents to again come to a boil, and then lifts it from the fire. He pours out a tin cupful of the coffee, and pours it slowly back into the pot, throwing away the residue of grounds that remain in the cup. For about a minute, or while the rest of the dinner is being served, the coffee-pot stands in a warm place near the fire, and then its contents are ready for drinking.

"If either of you had wanted tea, Aleck would have put in the pot a teaspoonful of tea leaves for each cup to be made, poured boiling water over it, let it stand in a warm place two or three minutes, and it would have been ready for you.

Digitized by Google

"Here you have a plain, easily cooked dinner of fried fish, boiled potatoes, and coffee, to which you can add from your supplies bread and butter, or crackers, pickles, condensed milk, salt, pepper, and sugar. I think you will find it enough for a first experiment.

"For breakfast next morning you will have coffee, fried potatoes and breakfast bacon, and griddle-cakes."

"Oh, Uncle Harry, I can't make griddle-cakes," exclaimed Aleck.

"I think you can, if I tell you how, and you try hard. At any rate, you had better try, for they enter largely into the composition of camp meals. To make the simplest flour griddle-cakes, put into a pan a quart of your prepared flour, a teaspoonful of salt, a handful of corn-meal, a table-spoonful of brown sugar, two eggs, if you have them, and mix with cold water into a batter. Stir thoroughly until no lumps are left, and then fry on a hot griddle. In frying use as little grease as possible. More griddle-cakes are spoiled by the use of too much grease in frying than in any other way. A bit of pork rind or an oiled rag rubbed over the griddle is sufficient. Take turns in frying the cakes, so that two of you can be eating them as fast as they are done. They are only fit to eat when hot from the griddle.

"The cold boiled potatoes left from dinner the night before may be cut up and fried with half a dozen slices of breakfast bacon, and when all is ready you will have a breakfast to which I think three hungry boys will do ample justice.

"When you become tired of fish, catch frogs. They are considered delicacies on first-class tables, and add a pleasant variety to a woodman's fare. Catch them with a light rod,

Digitized by Google

short line, and small hook baited with a bit of scarlet flannel, or at night by use of a jack-light. Stupefied by its glare, they will let you pick them up. Kill your frog by a tap on the head, cut off his thighs and hind-legs, skin them, roll them in Indian-meal, and fry brown in hot oil or pork fat.

"You will also probably have an opportunity of adding squirrels to your bill of fare. When you have got your squirrel, chop off his head, feet, and tail, cut the skin crosswise of the back, and strip it off in two parts, fore and aft; also cut the body crosswise into two parts. Throw them into a kettle, and let the hind-quarters parboil until tender. Then fry them, until of a rich brown, in oil or pork fat, hissing hot. Use the fore-quarters for a stew.

"To make a stew use almost any kind of flesh or fowl. The chief thing to be remembered in making a stew is to stew it enough. An old camp jingle runs thus:

> "'A stew that's too little stewed
> Is understood to be no good.'

"Let your meat boil for more than an hour, or until it begins to fall from the bones. Add potatoes, pared and quartered, an onion sliced, salt, pepper, and a thickening made of flour and melted butter, to be stirred in gradually.

"In making a meat soup provide plenty of meat, and do not be afraid to let it boil. It is hard to boil it too much, and three hours is not too long. When nearly done, scrape a potato into the soup for thickening, and season with salt and pepper.

"To cook rice, let a cupful soak overnight. In the morning pour off the water in which it has soaked, place it in a

Digitized by Google

kettle of cold water, and boil it slowly, without stirring, until the kernels are soft. Remember to salt it. Rice is good with condensed milk, sugar, butter, or syrup. It is good to add to your soups and stews, and it is particularly good when added to the batter from which you make your griddle-cakes.

"To make mush stir corn-meal into boiling water; season with salt. Eat hot with syrup. Save what is left over, and fry it next morning. The same rule applies to hominy.

"These are the rudiments of camp-cookery. Not an extended bill of fare, but I think you will find it appetizing and nourishing."

And the boys agreed with him.

Digitized by Google

Chapter VIII

FISHING RODS AND TACKLE

EVERY boy knows how to go a-fishing, but an intelligent boy is not long in learning that the mere getting of a lot of fish is a small part of the pleasure. That is why he prefers the rod to the seine, one big fish to many smaller ones, one cunning old trout or pickerel outwitted to a basket of stupid fish that contended for the bait. Presently he begins to desire more delicate tackle, and understands that he is fishing for sport, not fish.

Sportsmanlike Fishing

To begin with: The chief things that make a fish desirable, in the sense of a game or sport fish, are that it shall be good food, not too common, and not too easily caught. If, besides, it be beautiful and found in beautiful places, so much the better. It happens that by common consent certain fish—salmon and trout and their kindred—are in Europe and America esteemed above all others, but the opportunity to angle for them is not open to every one, and most boys must get their sport with other less-esteemed kinds. "Boys' fish" they are sometimes slightingly called, but they have

Digitized by Google

lots of sport to give to the boy who knows how to get it, and he will get more sport if he takes pains to make the fish better worth catching and better worth having after it is caught. It is better worth having, for instance, if you have caught it from the cleanest water you have access to. Clean water makes sweet fish. If a fish is to be kept, kill it at once by a blow upon the back of the head where the backbone joins it. This is not only more merciful, but makes firmer meat. If one is fishing from a boat or not moving about much the fish may be kept alive in a floating live-box or basket, and at the end of the fishing the best may be chosen for keeping and the rest let go. Fish are sweeter, too, if cleaned as soon as possible; besides, the cleaning is done more easily if done early. Learn to do it well yourself, and try to be at home in time to do it before supper. Cleaning fish by candlelight goes far to spoil the sport of a pleasant day. Do not clean fish with your pocket-knife. Have in your kit a stout one for the purpose which will also cut bait. Such knives, made expressly, are sold for a small sum, but a veteran kitchen-knife or a broken table-knife, if kept in order, will do excellent service.

Care and Patience

Now, how are you to increase the sport of the catching? Of course you want the largest fish, and these are usually the oldest and most wary. This wariness you do not expect to change, but you hope to defeat it. Study the habits of the fish, where and when and upon what it feeds or what it seeks. Let your fishing be governed by your discoveries.

Digitized by Google

And while you are offering him what he wants and when and where he wants it, remember these old fellows are fussy about their table-service. They do not feel hungry if a boy throws his shadow across their table, or shakes it by rushing up to it. Stalk your fish, then, as quietly as you are able, and if you have alarmed it in any way stay out of sight and remain as quiet as possible for a long time until your clumsiness is forgotten, and then let your lure, whether bait or fly, drift into the fish's sight as if you had nothing to do with it.

You want also as good a fight as you can get. Remember that the fighting qualities of fish are as a rule best developed in those which live in rapid and turbulent water, and in those which pursue their prey and catch it by their own nimbleness. But any fish will fight better if you make the struggle more even by using delicate tackle. You win then only by dexterity of handling, which is one of the great charms of angling, and about the only one, as regards the mere catching of fish, on which the experienced angler sets much value. The secret of success with delicate tackle may be told in two words—care and coolness. Care in the preparation of the tackle, coolness in handling it.

Tackle

When you put your tackle together you will make it far safer if you consider it as one apparatus or machine from hook to reel and if you let the rod top, or "tip," be the weakest point of all, because by it you can best determine the strain upon the whole gear. For instance, a good line

Digitized by Google

for fresh-water fishing will usually lift at least ten pounds, a good snell at least three pounds if new, the hook more than the snell, while the top of an ordinary light rod will rarely bear more than two pounds of dead weight, so that you may know by the strain upon the top joint just what the tackle is bearing; and if the joint is safe the whole is likewise safe.

By testing your tackle you raise your fishing from a rough-and-ready guesswork to something like certainty, the one point of doubt being always the security of the hook in the fish's mouth, and even of this you soon acquire the power of judging. But this testing is not done once for all. Good tackle which is put away wet to mildew, or gut which is frayed or put in the sun to rot, does not long remain sound. Therefore dry your line, carefully unwinding it from the reel if you have one and winding it upon a chair-back, for instance, when you come home. Look over and test your tackle every time you are going fishing—yes, and every time it gets caught on a stone or stump or in the bushes—if you wish to escape the loss of your best fish.

The strain upon the tackle is equalized by the elasticity of the rod, which to some extent makes up for want of dexterity. But never have a rod so flexible that it will not control the tackle, and, above all, avoid one which is weak in the middle.

Lastly, let the fish do the pulling if you wish to safely handle it. No angling-tackle is as strong as a boy. But if the rod be so held that its spring keeps the line taut and a gentle, steady pull upon the fish the latter soon exhausts himself fighting this elasticity. Any excess of line not easily

Digitized by Google

controlled by the rod alone should be at once taken up by the reel. Draw the tired fish out gently, without "yanking," or, if heavy, lead it into the landing-net.

The Choice of Rods[1]

Rods vary according to the kind of fishing, and the "all-round" fisherman will probably have, without being finicky, as many rods as a golf-player has clubs. But the boy for whom this is written must make his pocket-money go as far as possible, and he will probably have but one. Rod-making is an interesting amusement, but it would better be deferred until one knows fairly well the use of a rod and just what kind he wants. The making of rods is not very economical, since nowadays factories turn out really good ones at prices little above what one must pay for reliable rod-wood. Roughly speaking, there are two kinds of rods, bait-rods and fly-rods. Bait-rods are nearly always stiffer than fly-rods; the latter must have sufficient flexibility and elasticity to throw a line quite a distance, often several times the length of the rod. But in choosing a bait-rod a different selection will be made according to the particular sort of fishing within reach. Thus, if one fishes ponds or wide streams from the bank, a rod a dozen feet long would not be too long; but if from a boat, a shorter rod, not above ten feet, will be more convenient. Still, shorter rods are better if bait is to be cast long distances, as is done in minnow-fishing or some kinds of sea-fishing. A jointed rod

[1] Mr. Henry P. Wells's book, *Fly-rods and Fly-tackle*, furnishes a detailed study of the subject.

Digitized by Google

is convenient for carrying, but if one lives within walking or driving distance of his fishing a rod in one piece, such as is easily made from a slender bamboo with an elastic tip of good wood spliced on, is as good for bait-fishing as any. If, besides bait-fishing, one desires to use the fly, then the best rod is a rather stout fly-rod about ten feet in length, because it can be used for bait-fishing, while a bait-rod cannot be used to cast a fly.

Beautiful and excellent rods are made of split bamboo, and some of moderate cost; but avoid very cheap ones. But for beginners' use the writer prefers a solid-wood rod of good quality, because it is less liable to injury and because of the greater ease with which it is repaired; the boy himself may do it if he be handy. Whatever rod you have, let the line-guides be of the sort known as "standing-guides" rather than rings, if you have the choice.

Lines and Hooks

Lines should be sound and strong, but not too heavy for the rod; twisted lines are more easily found of good quality, but braided lines kink less. Twenty yards are quite enough for any fishing of the kind we are considering, and half as much would usually suffice. In fly-fishing for large trout or bass the reel usually carries forty to fifty yards.

Hooks should be of the best quality to be had. Good hooks are still practically all made in England. Shapes which have received names are many, and most of them have advantages for particular kinds of fishing. Among the best are O'Shaughnessy, Limerick, Sneckbend, Aber-

Digitized by Google

deen, and Sproat. The last-named we think will meet more kinds of need than any other one. As to size, it should be remembered that the hook is to fit the bait, not the fish's mouth; a very small fish can take any ordinary hook.

Other Tackle

A reel is not so absolutely necessary as the rod, line, and hook, but it is a prime convenience. A well-made single-click reel is better than any multiplier except for the one matter of making long casts from the reel, which a beginner is not likely to do.

For fly-casting a leader or casting-line of gut between the fly and the main line is necessary for making a light cast, but for ordinary bait-fishing the gut-snells which are nowadays so generally sold attached to hook are bottom line enough. If, however, you can get some white, gray, or cream-colored hairs from the tail of a young stallion you can make bottom lines or leaders for light fishing without expense.

A gaudy float is pretty sure to form part of the first angling outfit, and it is useful to keep the bait out of the weeds and to notify the inexperienced angler that a fish is biting. Choose one that is slender in shape and not large. A dry stick makes a good enough extemporaneous float, and if fish are shy may be better than a more showy one.

For sinkers, split shot BB size and buckshot or strips of thin lead, such as comes from tea-chests, wound around the line are as good as any and very easily gotten.

Do not buy a bait-box. It is not so good as a bag with a

Digitized by Google

drawstring, which will allow your hand to be inserted and will also close the aperture snugly. The same string will serve to fasten the bag to your buttonhole or creel-strap. The bag is best made of flannel. Wash it after using.

Worms are much better if dug a day or two before using and "scoured" by putting them into soft moss wrung out of water. They become brighter and firmer by scouring and are more attractive to fish. If live minnows or small fish are used for bait, of course they must be kept in water, which must be changed from time to time. A pail is the most convenient vessel to carry them in.

A landing-net is convenient if you fish for game which is heavy in proportion to your tackle—say for fish upward of a pound in weight with a light rod. Very low-priced ones are now sold in the shops and sufficiently good ones can be made at home.

We give no details about flies, as their name is legion. A beginner would better have but few kinds and of moderate size; a dozen or two will do for the simple camp life we are considering. For trout, the flies should include the Montreal, Professor, Dusty Miller, Parmachenee Belle, Brown and Black Hackle, Coachman and a few others, the choice of course to be guided by local requirements.

Probably most boys are too sensible to fall into the error which seems to beset many adults—namely, that the possession of tackle makes an angler. It is necessary to know how to use it.

Begin by putting your rod together properly; put the tip into the middle first, and then the middle into the butt. See that the ferrules are well "home" and that the guides

Digitized by Google

are all on the same side, so that the line will run freely. Place the reel, if you have one, in the reel-seat and see that the reel-bands are snug and will not slip. Then lead off the line through the rings and the tip-ring. These details are the same whatever kind of fishing is in hand; the others depend upon what is to be done.

Let us suppose that you are to fish with bait and that bait a worm. If you have a short gut line—two or three feet long—it will be well to fasten it to the end of the line and to the other end of the gut attach the snell of the hook. But when seeking many fish which are not very shy the snell may be fastened directly to the line. In fishing in a gently moving stream no lead may be needed; if the current be too quick a little will probably be required to keep the bait near the bottom. In pond-fishing or reaches of a stream which are very quiet a float as well as lead may be convenient. Some veteran anglers still enjoy the bobbing of the float. The hook may be put into the side of the worm as shown at A, or into the head as at B (Fig. 1). A is rather more attractive to the fish; B more likely to be taken in such a way as to insure that the hook is in the fish's mouth. When the worm is dead or has slipped down into a bunch at the bend of the hook no fish that you want will be likely to take it.

Now, do not make a splash when you put it into the water. If you have to cast it out into still water do not use your rod and line as if it were a thresher's flail. Holding your rod nearly straight up, give the line a gentle swing forward, and when the bait has swung well out reach after it with the rod so that the bait (and float, too, if there be one) shall fall

Digitized by Google

as lightly as possible. Do not be in too great a hurry to change its place. If you are fishing in running water, drop the bait quietly into the water and so manage the rod that it shall neither hasten nor hinder the movement of the bait, which should travel as nearly as possible as it would if it

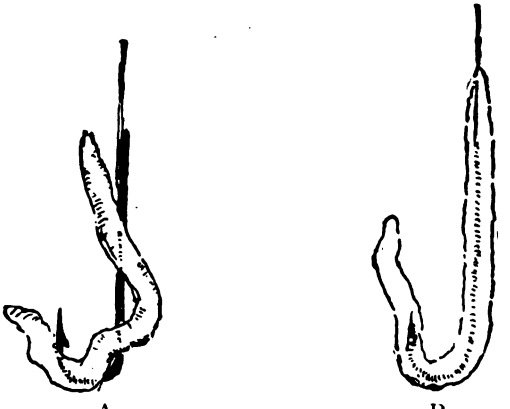


Fig. 1

were not upon a hook. All the time you are to keep as much as possible out of sight. When you feel the pluck of the fish drop the point of your rod and wait a second or two before you attempt to strike the hook into the flesh.

It sometimes happens that the place you wish to fish is so encumbered with bushes that it cannot be approached. In such a case, if you cannot find an opening in the bushes you may get at the water by shortening the line and winding what is left around and around the top of the rod. Then pass it through the opening, and, reaching out over the water, roll the rod over and over in the hands until the line

Digitized by Google

is unwound and the bait goes dropping down to the water, as a spider lets himself down from his web. If you have a bite, give the fish time to make sure of the bait. Strike, and, when you can, shorten your line still farther if necessary and draw your fish out.

On the other hand, if in a fairly open place you wish to reach a point at some distance, you may throw your bait out by pulling sufficient line from the reel, and, gathering it in coils upon the left hand, swing the bait out with sufficient force to carry the coils of line after it and so reach the desired point.

Digitized by Google

Chapter IX

FISHING WITH BAIT

HOW often has it happened that on reaching a camping-ground, hotel, or boarding-house near river or lake where pickerel, bass, and large perch abound no provision is found for the angler's sport but a boat—no lines, sinkers, or floats; no nets for catching live bait, and no bait but worms. For sunfish, catfish, and small perch worms are very fair bait; but for pickerel, bass, and large perch live bait is best. Here are some makeshifts and aids that may be gotten up at short notice and at small expense.

A Seine Net

Fig. 1 is an end-section of a mosquito-net seine for taking live bait. The length of the seine is thirty-eight feet, depth five feet. The "cork line" A A consists of a small-sized clothes-line. Corks not always being obtainable, I have used pieces of thoroughly seasoned white pine three inches in length and one inch in diameter (C C C). Through these rounded pieces of wood holes are bored through which the clothes-line passes. These floats are placed eight inches apart and are kept in position by the clothes-line fitting

Digitized by Google

tightly in the holes. At the bottom of the seine another clothes-line is sewed to the netting (B B). This is called the "lead line" and is for the purpose of keeping the lower part of the seine close to the bottom of the water. In the lead line pieces of sheet-lead one inch in length are fastened (H H H) twenty-eight inches apart. The "staff" D is a well-seasoned piece of hickory six feet long, to the lower end

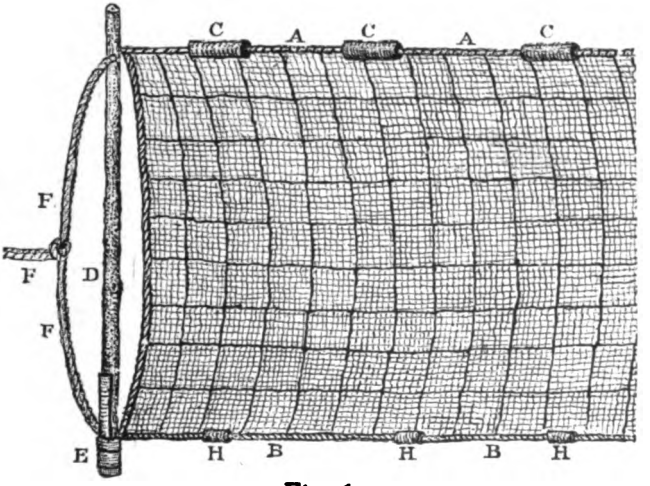


Fig. 1

of which sheet-lead is also fastened at E to keep it down. To the staff is attached the staff line F F F, thirty feet long, which is for the purpose of drawing in the seine after it has been cast.

A seine of this size is generally worked by two persons and two boats. Each person takes one of the staff lines in his boat, and rowing toward the shore with the extended

Digitized by Google

seine describes a semicircle between the boats. As the shore is approached each boat closes in, thereby causing the two staffs to meet and imprison all the fish that have come within the bounds of the seine. When one person works the seine one of the staff lines is tied to a rock or stake on the shore and the other line is taken into a boat, or the operator wades out and causes his end of the seine to describe a circle until the two shafts meet. Great care must be taken to keep the lead line close to the bottom, otherwise the fish will escape. In the selection of the seining-ground always avoid stony bottoms, snags, and brush, which will cause the seine to "roll up" and tear.

The cost of the above-described seine ranges from three to four dollars, and is capable of lasting two seasons if carefully handled and spread out on the grass to dry after using it. A much superior article to mosquito-net is bobinet, which will last several seasons.

A Bait-boat

Fig. 2 is a bait-boat for keeping the bait alive. It is towed behind or kept by the side when fishing. The top and bottom pieces consist of half-inch pine: in the centre of each piece square openings are cut; that on the top is protected by a door made of wire-cloth or quarter-inch mesh fastened to two small staples which answer the purpose of hinges; over the opening in the bottom piece wire-cloth is nailed to admit of a free circulation of water. Under the back end of the top piece a cleat is nailed, also two cleats on the bottom piece as shown in the drawing. At the bow of

Digitized by Google

the boat an upright piece of wood is fastened to the top and bottom of the bait-boat by means of screws. The sides of the boat consist of one piece of wire-cloth, the ends of which meet at the upright piece of wood at the bow and are nailed

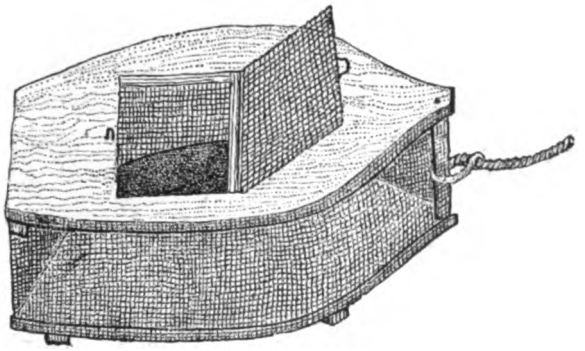


Fig. 2

with broad-headed galvanized nails. The top and bottom of the wire-cloth are also fastened with nails to the edges of the top and bottom of the boat as shown in the drawing. A tow-line is fastened to the bow and the boat is complete.

When handling the bait a small hand-net (Fig. 3) is used, consisting of a stout piece of wire as shown in the drawing. The straight parts of the wire are bound together with fishing-line and constitute the handle; to this frame netting is sewed to form the net-bag.

For a makeshift float nothing is better than a good-sized bottle-cork into which a cut has been made with a sharp knife or razor extending from the side to the centre of the cork. Into this cut the line is drawn as shown in Fig. 4 A.

Digitized by Google

Sheet-lead is always a useful aid in makeshift fishing-tackle, and for light lines makes excellent sinkers when bent and compressed around the line as shown at Fig. 4 B.

For cleaning out a boat a stiff whisk-broom made of fine birch twigs bound together with wire or fishing-line, as shown at Fig. 5, will be found very useful.

Fig. 6 A and B are hand-made sinkers beaten and carved out of old lead pipe. The carved one, B, is first roughed out with a jack-knife and finished up with fine emery or sand paper. A is beaten into shape with a railroad spike on an anvil or smooth stone. This beating and carving of lead is very pleasant work, the lead being of such an easy and good-natured temper.

For a cheap and easily obtainable bailer make use of an empty tomato or corned-beef can as shown in Fig. 7. A hole sufficiently large to admit of the handle is punched in the side of the can; the inside of the handle is chamfered off so as to fit close to the inner side of the can. Through the can and into the end of the handle a stout nail is driven as at A.

A good bait for large fish is a strip cut from the under side of a small pickerel, perch, or sunfish, which is placed on the hook as shown in Fig. 8.

Baits, and Where to Find Them

As a rule, the young fisherman naturally considers the angleworm to be the only bait he need have when he goes fishing, and, taking a spade, he seeks a moist, loamy spot in the garden and proceeds to fill his box. But there is a

Digitized by Google

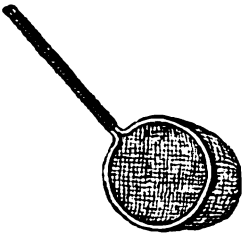


Fig. 3

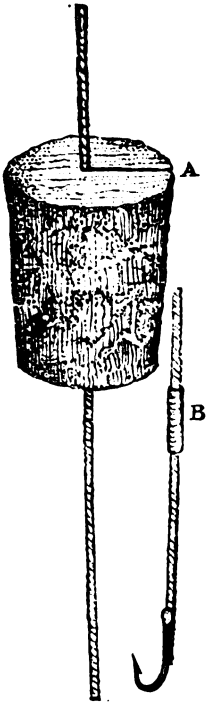


Fig. 4

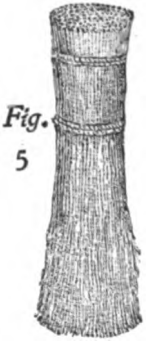


Fig. 5

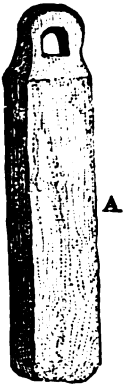


Fig. 6

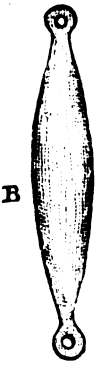


Fig. 6

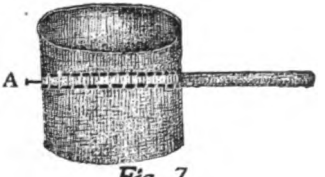


Fig. 7

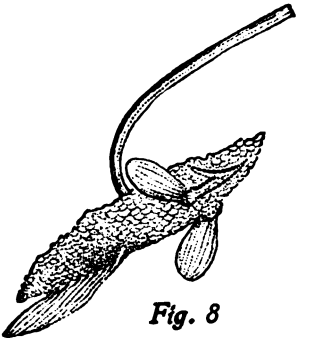


Fig. 8

Digitized by Google

choice even in worms, and those of a clear, dark-amber color are the best.

Just at night, and after a soft, warm rain, worms of the size of a lead-pencil will be found crawling over the ground. These are excellent bait for bass, chub, perch, and large trout early in the season. If you step very lightly, so as not to jar the ground, you can easily pick up a box of these large fellows.

It is well enough to have worms with you on all occasions, but there are many other baits. Frogs, crabs, grubs, dobsons, minnows, June-bugs, grasshoppers, and crickets, as well as artificial baits, are more successful lures with certain fish. A few words telling where to find these baits and the proper manner of keeping them fresh and lively may prove of value.

Frogs are most plentiful on the shores of ponds or streams filled with plant growth, and in low, moist places in meadows. In searching for them in grass, wait till you see one jump, then catch it in your hands. They are not so easily gotten from the shores, as they are apt to take to the water at the first alarm.

Crabs are usually found under stones along the shores of a stream or pond, and in some localities in low, moist places in grass-lands. Seize the crab back of the pincers and it cannot nip you.

Dobsons are only found under mossy stones in swift-running waters. They are of a dark-gray color, have many legs, and when fully grown are about three inches long. The head is shield-shaped and armed with good, stout pincers; so handle the dobson as you would a crab. The

Digitized by Google

best way to get a supply of dobsons is to have some one hold one edge of a fine-meshed net on the bottom of the stream while you turn over the stones above the net with a hoe. The dobsons, loosing their hold on the bottom, will be carried by the current into the net. Put frogs, crabs, and dobsons into a pail with plenty of grass and some water. If you are to keep them for some time change the water occasionally.

Grubs are excellent bait for trout early in the season. They are found in partially decayed tree-trunks, stumps, and old timbers left in moist places. Cut into the wood with an axe, and if you find it full of holes of the size of a lead-pencil, knock it to pieces and pick out the grubs. Put them in a tin bait-box with some of the rotten wood you found them in.

Minnows of a size suitable for perch and bass fishing can usually be procured from a spring hole or the pools of a small stream. Take a rather baggy net with a small mesh, and after setting it at one end of the pool drive the minnows into it by striking on the water with a pole and punching about on the bottom. If you stir up the water the little fish will drive more easily. If your supply must be procured from a lake or pond, look among the shallows close inshore until you have found a school, then draw a small seine around them. Large minnows for pickerel or pike fishing can be caught with a hook and line. Those you are to use for skittering had better be packed in salt. The minnows you would keep alive should be put into the bait-pail as soon as caught. Bait-pails, as usually made, consist of one pail freely perforated with holes to be set into a tight outer

Digitized by Google

pail. By this arrangement the water can be changed frequently without inconveniencing the little fellows. If the bait is to be carried some distance, and there is no chance to change the water, pack the space between the two pails loosely with grass. The water trickling down through the grass will take up the air needed by the fish.

Crickets are to be found under stones, loose sods, and old planks. Select the largest you can find. June-bugs, sometimes called May-bugs, hide through the heat of the day among the leaves of the trees, and sometimes by shaking a tree quite a number will fall to the ground. Grasshoppers are plentiful in meadow and pasture lands, and may easily be caught in the hands. Put June-bugs, crickets, and grasshoppers in a wide-mouthed bottle loosely stuffed with grass. Do not cork the bottle tight.

I never esteemed artificial baits, such as the rubber frog and crab, very highly. It is impossible to give the semblance of life to them in the water, and most game fish prefer live food to dead. The spoon-hook and the artificial fly, however, have proved their worth. The spoon should be of a size in keeping with the size of the game fished for, and it is well enough to have two—one bright, for use early in the morning and late in the afternoon and on dark days, the other dull-colored, for use in the brightest part of the day. It is an excellent plan to bait a spoon-hook with a large worm, a minnow, or a piece of meat; then if the fish strikes and misses the hook it may get a portion of the bait, and will strike again with truer aim.

There are many other things that can be used for bait, which are to be found only in your locality. What they are

Digitized by Google

you can learn by observation and experiment. One can always learn something. Only recently I discovered that bass were fond of darning-needles.

Sometimes the fish have very fickle appetites, and it is well to have as many kinds of bait as you can conveniently carry. It is also a good plan to open the stomach of the first fish you catch, and offer to its companions the same kind of food found inside of it.

A Trap for Small Fish

I always found that the scoop-net which we use to catch the fish with is good enough for certain kinds of minnows, but there are others which are too lively or too shy to be caught in that way; so I set to work to devise some plan for their capture. I claim no originality for this trap—it is hundreds of years old; but as it answered my purpose better than anything else, I used it. The way I made it was as follows:

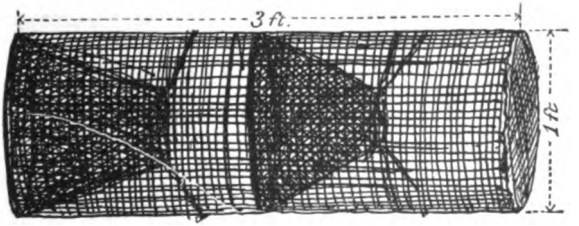


Fig. 9

I took a piece of wire netting about three feet square and bent it so as to form a tube three feet long and about one foot in diameter (Fig. 9). I then took two other strips of

Digitized by Google

wire netting, three feet long at the top, one foot wide, and two feet at the bottom (Fig. 10); these I bent into funnel shape. I sewed one funnel in about the middle of my cylinder and another in one end, as shown in Fig. 9, strengthen-

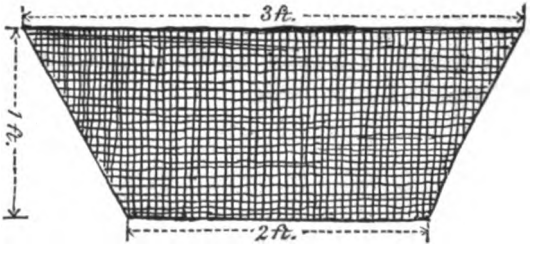


Fig. 10

ing them in their position with strings from the small ends to the sides of the cylinder. The other end of the cylinder I closed with a piece of strong bagging so sewed on that there was a space left at one side which could be untied when I wished to empty the trap.

The manner of setting the trap is as simple as its manufacture. A handful of clams or mussels, crushed so that the minnows can get at the flesh, is thrown in between the first and second funnels. The fish, little crabs, small eels and the like go in, and when they try to get out they find it much easier to swim through the second funnel than to find the small hole in the first. I have had several of these traps, or "pots," as the fishermen call them, in operation at one time, and have caught as many as half a bushel of small fish in one night.

The trap can be made by making a frame of hoops and

Digitized by Google

lath and covering it with mosquito-netting, but it is not so desirable as the fine wire, being more easily torn.

A Water-turtle Trap

Some time ago, while spending the summer in the country, I began the pleasing amusement of making an aquarium. I used various methods to procure the inmates of the great glass box which I had made for the purpose, and was successful, except that I could not get a water-turtle. There they would lie on logs in the pond sunning themselves, but the moment I came within reaching distance, plump they would go into the water. At last I took an old soap-box, and after carefully removing one end I nailed on the cover. I then fastened the end to the cover by hinges, so that it would swing inward, and after throwing in a few bones and scraps of meat I sunk the box in the pond close beside a big log where the turtles were accustomed to sun themselves. I

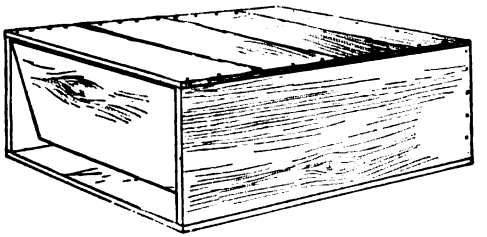


Fig. 11

put a heavy stone on the box, so as to keep it steady, and awaited the next morning for developments. Fig. 11.

Here I may say that this trap takes advantage of a peculiarity in the nature of the water-turtle—namely, if

Digitized by Google

there is a log or stone that he cannot get under, that is just the place that he wants to get; and I calculated that the slight resistance offered by my swinging door would be just enough to make the turtles determined to get into my box. The next morning when I went to my trap I found several turtles of all sizes, from one tiny, yellow-spotted fellow, or mud-turtle, not larger than a half-dollar, to an ugly, great snapper as big as your hat, and so ill-tempered that I let him go again, glad enough at having got rid of so troublesome a visitor. After that I set my trap several times and caught a number of turtles. The smaller ones furnish a charming addition to an aquarium, and the larger ones, if properly dressed, make a capital stew.

An Eel-pot

All along the Atlantic coast eel-pots are made on the same general plan, a bottle-shaped basket having a funnel fitted at the bottom and provided with a hat that is held on by two straps of green oak.

Three forms are used on which to build up the basket-work. The large form is usually ten inches in diameter and shaped down to eight inches at the top or neck. This form is two feet long and has a round stick driven in the small end. This in turn rests in a hole bored in a solid piece of plank, so that it is held in an inverted position and revolves in the hole. Green oak is used for the ribs and bands. This is cut as straight and free from knots as possible, and is soaked in water for weeks before it is split and slivered. Green oak will sliver in an even and uniform manner if it is

Digitized by Google

started right, and from the trunk of an oak-tree six inches in diameter enough material can be had to make several dozen eel-pots. The ribs are three-quarters of an inch wide and about one-eighth of an inch thick, while the bands are a trifle thinner and wider. A number of the ribs are tied around the form as shown in Fig. 12, and beginning at the bottom the bands are woven in and out around the form, turning it as the work progresses so that the immediate parts are always in sight. Where the ends join they are shaved down thin so that one laps over the other; then the weaving continues until the top is reached. The ends of the ribs are then shaved thin and bent back and slipped under some of the straps. A thin ribbon of the oak is sewed over and over around the edge to finish it. The top or small end of the basket is finished in a similar manner.

The cone or funnel form is fifteen inches long, nine inches in diameter at the large end, and tapers down to two inches at the bottom, as shown in Fig. 13. Ribs are tied to this form the same as in the case of the large one, and the weaving begins at the bottom and is carried to the top, where the ends of the ribs are shaved and turned in as before described. The bottom or small end of the funnel is the trap, and here the long, thin ends of the ribs are left, so that the eel, when he goes through the funnel and into the pot, cannot get back again.

The hat is woven the same as a basket, by crossing the ribs and adding a half-rib from the centre anywhere on the circle, so as to make an uneven number of ribs; thus the weaving will not duplicate after the first turn around the

Digitized by Google

circle. This extra rib is shown at A in Fig. 14. A hat form, shown in Fig. 15, is made of wood and mounted on a block so that it will revolve the same as the other forms. When a part of the hat is woven it is placed on the form and two small nails driven through the ribs into the form to hold the

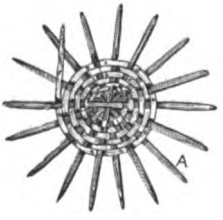


Fig. 14

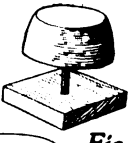


Fig. 15

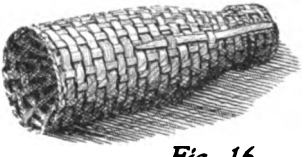


Fig. 16

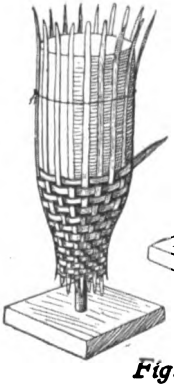


Fig. 12

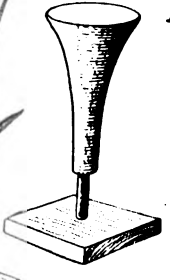


Fig. 13

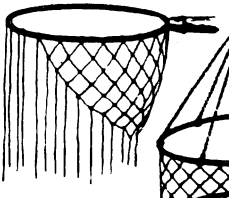


Fig. 17

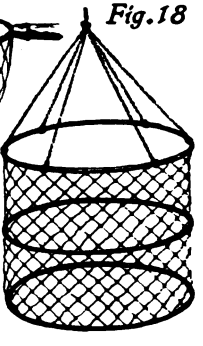


Fig. 18

weaving in place. It is then shaped down over the rounded edges of the form and carried one or two inches below the form so the lower edges of the ribs can be shaved and bent easily. A long strap of the green oak is passed under one of the ribs in the hat and caught under bands of the

Digitized by Google

body, as shown in the drawing of a complete eel-pot. Fig. 16.

The funnel is sewed to the bottom edge of the body with thin bands. As soon as the pots are finished they should be sunk in shallow water to keep them wet and get them thoroughly water-soaked.

Stakes or poles are to be driven or worked down into the bottom of the bay and the eel-pots made fast to them with ropes. To bait an eel-pot crack some hard-shell crabs or shrimp or put some pieces of fresh raw meat within the pot and drop it overboard. Run the pots morning and night, and remove the eels by unstrapping the cap and dumping them into a barrel which may be carried on the boat.

A Scap-net

A scap-net for crabbing or landing fish on a hook may be made from a ring of heavy galvanized iron driven into the end of a hardwood stick. Scap-nets may be purchased in almost any general store near a bay or pond, but the ingenious boy can make one himself from a hoop and a ball of cotton twine. Hang long pieces of string over the ring and tie them fast with a square knot. Then tie one string with its next neighbor all around the circle. Begin lower down and tie them again, and continue in this manner until the net resembles Fig. 17. When it is seven or eight inches deep begin to shape it in at the bottom by making the meshes or openings smaller, so that it will have a rounded bottom. The ends of the string should be tied together or over a small galvanized iron sail-ring. All the strings should

Digitized by Google

be tied in square knots so that they will not become undone after the net has been used for a while.

A Hoop Drop-net

A hoop drop-net such as shown at Fig. 18 may easily be made from three galvanized-wire rings and a mesh of tied string as described for the scap-net. The hoops should be eighteen inches in diameter and separated ten inches, thus making a net twenty inches deep. A mesh is to be formed across the bottom, and at the top six small ropes are tied and the ends brought together fifteen or twenty inches above the top ring.

Place some crushed crab or any good bait in the bottom of the net and slowly lower it until the rings rest on the bottom of the bay or pond, but keep the small ropes clear from the net. Watch through the water for visitors, and when the right subject is at the bait and within the rings give a quick jerk and pull the net rapidly to the surface. If fish are to be caught in this manner the hoops should be larger and one more added to the net, making it thirty inches deep. Fish are cunning and swift, and will often dart up and over the top hoop faster than you can haul it up.

Digitized by Google

Part III

FLY-FISHING AND WILDERNESS CAMPING

Digitized by Google

Digitized by Google

Chapter X

HOW TO LEARN FLY-FISHING

EVERY book on angling contains directions for acquiring this art, almost universally prefaced by the statement that little can be learned from them. Without calling in question the advantage of practical instruction by an expert, still it is believed no little progress can be made in its absence.

Assuming the possession of the required implements, the next essential in learning to cast without a master is companionship. Thus one can rest and encourage the other, and each observe and coach his friend during his innings at the rod. In nothing does the old adage, "the outsider sees most of the game," more directly apply. Unconscious faults are instantly noted by "the coach" and brought to the attention of the caster, as well as the greater or less degree of success which may attend effort to correct these. The innings should not exceed five minutes each, for they should be made a pleasure and not a toil.

Access to water is quite unnecessary—I question whether it is even desirable. In the city, the house-roof may be the practice-ground; in the country, any grass-plot or a snow-field. Mark your stand, and measure from it about

Digitized by Google

twenty-five or thirty feet. There place a folded newspaper, retaining it in position by stones or similar weights placed on the corners. Let this, your target, be about eighteen to twenty-four inches square, and of several thicknesses, so that a hit may at once be distinguished from a miss by the rustle of the line on the paper. Use a cheap linen line for practice, E in size, and without leader or flies. A braided line is to be preferred. This will perfectly serve the purpose, and save whipping out the more expensive water-proof line you will employ in actual fishing.

To acquire a proper back cast—throwing the line behind preparatory to the forward cast—usually gives the beginner the most trouble. He cannot see behind him, and though he fully appreciates that his forward cast is a botch, he cannot locate the difficulty, and knows neither to what it is due nor how it is to be overcome. Here the eyes of his friend supplement those of the caster. Let the coach make some comment on every cast made, as, for example, "Your back cast was too low," "Your line did not straighten out behind," "Your forward cast was too quick," "Keep your body still," "Keep your elbow to your side," "There, that back cast was all right—try to repeat it," etc., etc., remembering to approve the good as well as condemn the bad; for the very object in view is to inform the caster what to cultivate as well as what to avoid.

I confidently believe that two persons of ordinary cleverness each thus aiding the other can, in two weeks' time, with say one hour's daily practice, learn to cast a very fair fly and in an easy and graceful manner. If a really experienced instructor can be had, all the better; but the

Digitized by Google

Fig. 1

[Note that the illustration shows only a portion of the rod]

Digitized by Google

supervision of a self-taught caster of limited experience, who insists on being guided solely by that experience, is to be avoided.

First Position

The coach taking his stand abreast of and on the right of the caster, and at such a distance as conveniently to observe every motion, let the latter withdraw from the reel line equal in length to about one and a half times the length of his rod. The thumb of the casting hand must not be closed up on its fingers, but be extended and bear upon the rod itself. Now throw the tip of the rod upward and behind a little, but only a little, beyond the perpendicular.

The illustration (Fig. 1) from a photograph from life shows the extreme limit of this movement, a limit by no means to be exceeded, while it may well be somewhat abridged.

In actual fishing the casting elbow is always and invariably to be held quite close to the side, and the forearm should not be raised beyond an angle of forty-five degrees with the horizon. The wrist, however, is to take a farther bend upward and as far as possible, for from the action of this joint should the impulse of the cast be almost exclusively derived.

I am aware that I am at variance with the precepts of many writers, as well as with the practice of many excellent anglers, in the direction that the elbow is invariably close to the side. Some cast at arm's-length, and largely with the shoulder-joint. This is a thoroughly bad method,

Digitized by Google

fatiguing, inefficient, and rivalling in grace a duck on land. Others cast with the elbow to or near the body, but just before the flies light extend the arm to its full length, as though they were about to impale something on the point

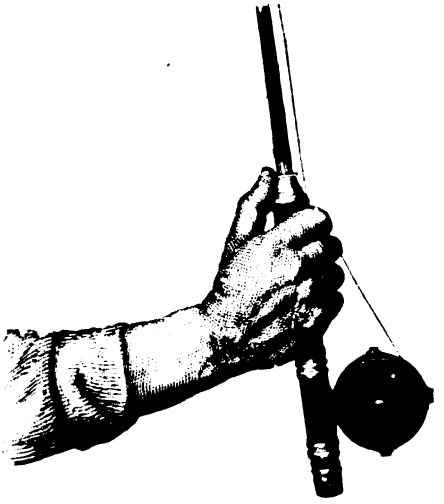


Fig. 2

of the rod. This method is used by many anglers whom I freely acknowledge to be my superiors. Notwithstanding, I am convinced that it serves no useful purpose (except in casting for distance only) not otherwise readily attainable, while it certainly looks labored and awkward. The one method resembles the postures of a trained athlete, no portion or member of his body in motion except those in actual use; the others approximate in greater or less degree to the contortions of the greenhorn, every limb pawing the air.

Though the elbow partakes slightly at the beginning

Digitized by Google

of both the cast and recover, still it is the wrist that is really the motive power in casting. The illustrations are taken from photographs from life. Fig. 2 represents the position of the wrist when on the back cast; Fig. 3 the wrist on the forward cast. Note the position of the thumb.

The position should be an easy one, and the body and the unemployed arm should be kept perfectly still. No habit is worse in casting than unnecessary contortions of the one or flourishes of the other. Not only is it exceed-

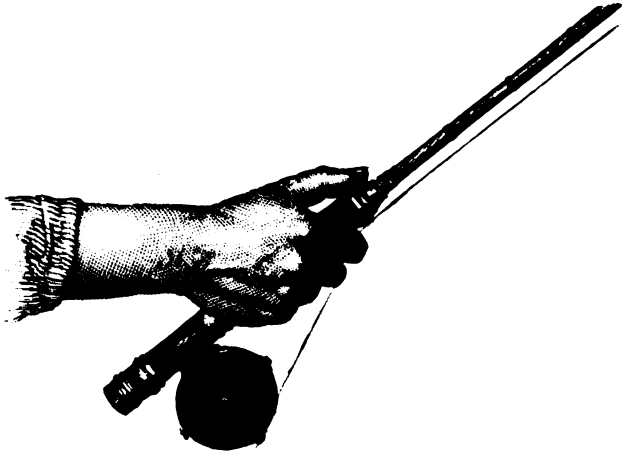


Fig. 3

ingly awkward, but it is injurious as well, since it is motion rather than the mere sight of an object which demoralizes the fish.

The Back Cast

The coach will pay particular attention to the back cast, for if this is mastered all else follows. It is the secret

Digitized by Google

of success. In practice, the end of the line, when behind him, should in no case fall below the level of the caster's head; everything below that should be regarded as a fault. There is nothing in fly-fishing which so promptly grades an angler as a high back cast, when circumstances permit its use, while nothing will more prejudice reputation for skill than the habit, even when sitting in a boat, of allowing the flies to touch the water behind the caster. Therefore cultivate a high back cast with the utmost assiduity. It is not difficult to acquire at the beginning, though this is no longer the case when another and different habit has been formed.

The secret of this is to throw the rod but little, if any, beyond the perpendicular on the back cast. The first illustration (Fig. 1) indicates the extreme limit. While the butt-joint is nearly upright, the upper portion of the rod will bend backward still more. Rods of varying flexibility vary somewhat in this respect. The stiffer may be thrown a little farther back, and still, since they bend less, give the line the required upward direction. I trust I have emphasized the importance of this sufficiently, as well as made clear the method by which it may be attained.

The coach must next see to it that the caster by no means begins the forward impulse until the line has extended behind to the limit of its length.

Ignore the front cast altogether in the first lessons, considering it merely as a necessary preparation for the back cast, and as otherwise of no consequence whatever. Concentrate the attention on these two features of the back

Digitized by Google

cast altogether (except, of course, to insist that the body and unemployed arm are motionless, and that the impulse proceeds from the wrist). Hang to these two points as if they were all there was to fly-casting, for really this assumption will be but little wide of the truth.

Having given the backward impulse to the line, it will be found that an interval must intervene between this and the forward impulse, during which the line is occupied in straightening itself out. This pause is absolutely essential, and an undue abridgment of its duration is the most common of all faults. It varies, of course, with the length of line used; and since the caster cannot see behind him, that he may know when the exact moment for the forward impulse has arrived, he must use the eyes of another, or experiment in the dark.

A sensitive hand can feel a drag on the tip when the line has extended properly on the back cast, and thus tell when to begin the forward movement, no matter what length of line may be in use. The beginner should be alert to perceive this, for, if he can, it will materially expedite his progress.

The coach will therefore watch the line, and when it has thus extended its full length give the word "Now!" Thereupon let the caster at once give the forward impulse. It will require a little practice on the part of the former to give the word at the proper moment, and on the part of the latter promptly to respond, but this will be soon overcome.

By a rigid adherence to this method of coaching and practice, a high back cast, and the allowance of the proper

Digitized by Google

interval for the line to straighten out, will soon become purely automatic—a mere matter of instinct adjusting itself to whatever length of line may be in use, without a thought or an effort on the part of the caster.

When this is accomplished, *and stick to it until it is*, the game is in your own hands, for everything else follows almost of itself.

The Forward Cast

Now some attention may be profitably given to the forward cast. That the line shall fall gently upon it, the end reaching the level of the mark first, are the desiderata. To accomplish this, throw the rod forward, remembering to derive the impulse from the wrist, until it assumes the position shown by Fig. 4.

Cast not at the mark, but as though an object three or four feet above it were the bull's-eye. Then when the line has unfolded almost its entire length, raise the point of the rod a couple of feet or so. This will turn the line point foremost, and cause the end to alight first. If the force of the impulse is justly proportioned to the distance to be covered, the line will fall by its own gravity alone upon the paper; but if too much power has been applied it will strike hard, or recoil and fall short of the mark. That cast is the most perfect in which the minimum of force is employed, and the beginner must make constant effort to see with how little exertion he can accomplish the result. He will find that very little power is required even for quite a long line—say fifty-five feet—and that the line falls most lightly and straightest in those casts where the power is

Digitized by Google

Fig. 4

[Note that the illustration shows only a portion of the rod]

justly proportioned, and not in excess of the work to be done.

After about a week's daily practice has given considerable skill to the right hand, and the habit of a high back

Digitized by Google

fly and the pause is pretty well formed, begin to educate the left hand as well, and after that practice both alternately. To be able to use either hand indifferently is a great accomplishment. Whatever is worth doing is worth doing well. Begin and continue your practice with the fixed intention to become second to none in skill, and educate the left hand, with the right, as one of the steps in that direction.

Experience by this time will have taught that the line must be so thrown behind on the back cast as neither to strike the caster nor the rod in its flight.

When the overhead cast is mastered, and you can get out fifty-five to sixty feet of line fair, straight, and light, and without much conscious exertion of force, and this with a high back fly and the proper pause, then you are ready for another step forward. Practise casting over the left shoulder for two or three lessons, and then casting sideways—*i.e.*, moving the rod horizontally or nearly so. The same principles govern success in these as in the overhead cast. But first thoroughly master the overhead cast; these modifications will then seem a mere bagatelle.

Permit me to caution you in the most decided manner not to strive after a long cast, for this is the sure way never to attain it. Let this take care of itself. By no means attempt thirty-five feet until thirty can be cast without perceptible effort, and that in good, cleanly fashion. Do your practising, after you have attained the complete mastery of forty feet, at that distance. At the end of the lesson take a couple of innings or so at forty-three to forty-five feet, thus making your distance practice an entirely

Digitized by Google

separate and distinct thing. Hang to that distance until you master it completely and with perfect ease, and then, and not till then, add two or three feet and not more. Proceed in this way, adding but two or three feet at most at each increase, and sticking to that until you master it completely before attempting more. At over forty-five feet you should devote at least a week to the next additional three feet, without a thought of anything beyond. Fifty feet is about the maximum fishing distance ordinarily employed; but by rigid adherence to these rules you will easily acquire command of seventy feet, provided you master the high back cast and the pause. Otherwise you will never be able to do fifty-five feet decently.

The Strike

In swift water the fish generally hook themselves, but not so in still water. Here the strike must follow the rise, as its shadow follows a cloud. This, too, may be acquired without approaching the water, and must be practised until purely automatic. To acquire this the caster must cast, draw his line toward him, trailing it on the ground, and, at the word "Strike!" from the coach, retrieve the line at once. The coach should use care to give the word at irregular times, so that the caster may not anticipate him. When considerable skill and promptness in response has been acquired the coach should abandon giving the word and signal the proper moment by dropping a pebble on the paper, standing close to it for this purpose. The instant the pebble falls the strike should follow. Strike lightly

Digitized by Google

if you can, but at all events strike quickly. Many of the angling books direct that the strike be made from the reel—that is, with the line perfectly free to render except for such resistance as the click of the reel may impose. Thus, if, in his anxiety to strike quickly, the angler strikes too hard, the surplus force, in theory at least, is expended in drawing line from the reel, instead of being transmitted to the leader or flies to the peril of their hold upon the fish. This theory, like many others, is not independent of circumstances. When a very fine leader is in use, together with flies so small that the least effort will bury them over the barb, this is without doubt the proper practice. But it is obvious that where the hooks are larger, the water free from current, and a long line is in use, there is more work to be done in striking than with small flies and on quick water where the current buoys up the line. The object is to transmit the strike to the taken fly with the least possible delay. Therefore a degree of force which would be more than ample in the one case may be quite inadequate in the other.

For small fish or small flies a mere turn of the wrist is the proper and artistic thing, but for larger ones this method is a delusion. Then you must "sock it to them," with the line firmly held under the first finger of the casting hand, as shown in Fig. 5. Indeed, after the beginner has gained some command of his nerves, so that while striking quickly he can graduate his energy to the size of his flies, the length of line he has on the water, and the magnitude of the fish, I am not sure that this is not the best method at all times. It will be noticed that without relaxing the grip of the rod

Digitized by Google

the line may be firmly nipped or allowed to render freely from the reel by simply closing or slightly raising the first finger. Then if it is desired to fish over more water than would be possible if the rod alone was relied on to move the fly, the rod may be gradually raised to the most advantageous angle for the strike and kept in that position, while the movement of the fly is continued by drawing in the

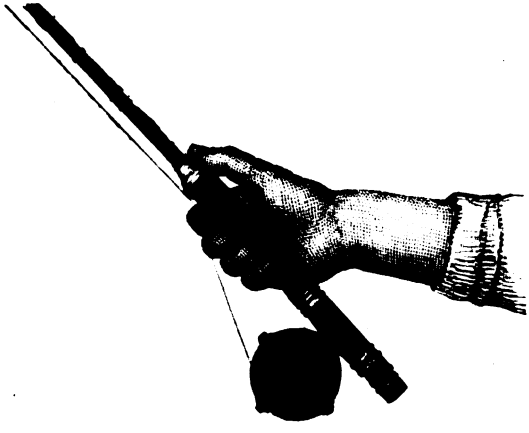


Fig. 5

line with the free hand, raising the finger while the line is drawn in, and closing the finger down on the line and rod handle when the free hand has drawn in all the line it can and must reach up for a fresh hold. Thus the fly can be well fished over all the water between the caster and the extreme limit he is able to cast. This method is very advantageous in fishing still water, or, indeed, all water where a rise may happen at any part of the path the fly so handled may traverse. Personally I employ this method constantly

Digitized by Google

in my own fishing, using the reel comparatively little. If I fasten a fish, I let the line run out between the thumb and first finger of the free hand—the hand that is not holding the rod—pressing the line more or less according to the resistance it seems advisable to impose upon the fish. When fishing from a canoe or boat I allow the line to drop upon the bottom of the canoe at my feet as I draw it in, being careful, however, not to step on it. If wading, the loop of the line falls in the water and runs down with the current. If fishing from the bank the length of the loop is so limited that it shall not reach the ground, lest it either catch on something, or sand adhere to the wet line and so be drawn into the reel when the line is ultimately wound up on it.

A Cardinal Principle

This method has a further advantage: The cardinal principle in playing a fish is to get it away from the place where it was fastened and to the surface of the water, where one can watch its pranks, as soon as possible. The reasons for this are threefold and obvious. Trout love cover, and the place where they harbor is apt to be snaggy. To foul a snag when a decent-sized fish is on is to abandon hope in nine cases out of ten. Again, where one fish is hooked others are apt to be, and further sport may be reasonably looked for provided suspicion is not aroused by the gyrations of the fish already fastened. Furthermore, hidden dangers are those most to be dreaded, since, while we may by skill and good judgment avoid those we can see, we must trust to blind luck to escape those we cannot see.

Digitized by Google

Now any trout, I care not what its size may be, can be dragged quite a distance from the place where it was hooked with no more resistance than if it were inert, provided the angler begins to drag on it the instant it is fastened. It seems as if they did not realize for the moment what had happened to them. The secret is to get a move on them at once and to keep them moving. The ordinary reel is not quick enough, and the automatic reel is too weak to do this. But by the method just described I have done it time and time again, with never a failure, in water so obstructed that no other course afforded reasonable prospect of ultimate success.

But to return to the strike: Promptness to respond to a rise without a suspicion of hesitancy is practically the important point. I have found it far more difficult to induce the many beginners it has been my privilege to instruct to strike promptly than to cast a very decent fly. One and all, especially ladies, seem to act as though they simply could not strike until the fish was felt. Then, of course, barring accidents, it is too late. If the beginner, when he sees the commotion of a fish near the fly, will only try to snatch it away so quickly that the fish cannot reach it, he will do just what he ought to do and just what the experienced angler does.

I have here laid out what I take to be about two months' to two and a half months' work. Certainly it can be compassed in a single close season. Access to water, I believe, will prove rather a drawback than an advantage, tending to distract the attention from the main object in view, the formation of a correct habit.

Digitized by Google

At the expiration of that period, I believe that two persons of average adaptability, each aiding the other, can with patience and perseverance, and by strictly following the directions contained in this chapter, become proficient in casting the fly to a degree not by any means common even among experienced anglers. True, this is not all of fly-fishing; but then the attention is thereafter free to devote itself to those lessons learned only from Nature's book, face to face with Nature herself. Then what the mind directs, that the muscles can execute, and thus the experience of years can be compressed into a comparatively brief period.

The Manipulation of the Fly

But casting is by no means all of fly-fishing. It is an art, and one not easy to acquire in perfection; but the greater part of the difficulty usually experienced is due to a faulty beginning, and to vicious and pertinacious habits thus unconsciously formed.

Some act and talk as though casting were the entire art of fly-fishing, and grade an angler solely by the distance he can cover with his flies. This is a great mistake and pernicious in its influence. Casting is but a method of placing the fly before the trout without alarming it, and within its reach. It is merely placing food before a guest. The selection of such food as will suit, and so serving it as to please a fastidious and fickle taste, still remain indispensably necessary to induce its acceptance.

But the manipulation of the fly after it has touched the water is quite another matter. Without undue violation

Digitized by Google

of the proprieties it may be considered a part of the cast, and it is proposed so to treat it.

Nothing during the past season has more impressed me than the fact, if fact it be, that in no single point in fly-fishing was error more common than in this. Not so much where a strong current lends instant aid to the angler is this apparent; as in the fishing of pools and of still water —the very places where the best fish are usually to be found. Nor is it a fault of the beginner, but rather of those whose proficiency is otherwise considerable.

To such, if any, who with limited practical experience may become facile casters by following the precepts of this chapter, a careful consideration of the following problem is recommended, for they stand in a position of special danger. The problem is:

1st. To place the fly within reach of the trout without alarming it.

2d. So to handle it as to simulate a living creature, and one tempting to its appetite.

3d. To do this in such a manner that, if the fly is touched, the trout shall infallibly be fastened.

It is neither to the first nor to the second of these points that I would call attention. But the third is well worthy the study of every angler, old or new.

Confining our attention to pool and still-water angling, it is rare that a trout, unless gaunt with famine, takes a fly the moment it touches the water, and then only when the stratum which intervenes between it and the fly is shallow. Taking any season through, and I am inclined to think that at least ninety-nine out of every hundred

Digitized by Google

trout captured in such water will be found to have taken the fly after it has been moved from the place where it first fell. It is also true that in such water some demonstration on the part of the angler is usually necessary to fasten the hook after the fly has been taken, or it will be rejected and the opportunity lost; also that the interval during which this may successfully be done is brief.

Now it is mathematically certain that when the rod is at a right angle with the line a given movement of the tip of the rod will transmit its impulse with the greatest rapidity, and with the maximum of effect, through the line, since then there is the least possible lost motion. It is also certain that when the rod and line form one straight line a very considerable upward movement of the tip is followed by but slight retraction of the line; there is then much lost motion, and consequently the impulse is tardily conveyed to the hook.

It is equally indisputable that when the rod is so raised that the line is parallel with it, or nearly so, all command over the former is gone; the rod has already shortened the line all it possibly can, and the power to strike is lost.

The problem is a most simple one.

Let us suppose the tip of the rod to be pointing at an object exactly forty feet distant from it. Now suppose the tip to be raised three feet, the end describing in so doing the arc of a circle of which the hand is the centre, as in actual fishing. Clearly, now, that end is more distant from the assumed point than before, and more line would be required to reach it; or, in other words, the line, if it did not break, must either stretch or move that difference.

Digitized by Google

Thus a theoretical measure of the efficiency of the "strike" at any angle of the rod may be obtained. Construction of the proper diagrams will also show that the strike becomes less and less efficient as the length of the line increases, and also as the hand actuating the rod approaches the level of the water.

I have said *a theoretical measure*, and advisedly, since we have been treating the fly-rod as though it were as stiff as a telegraph-pole. Clearly we must take its flexibility into account, since before the movement of the tip can overcome the inertia of the line and the friction of the water upon it the rod must bend until the tension of its elasticity is in excess of that inertia and friction combined. Thus we see that another deduction must be made from the efficiency of the strike, one rapidly increasing in amount as the length of line, and its consequent inertia and friction from contact with the water, increases.

Based upon these considerations was the suggestion heretofore made that a cast of five and a half times the length of the rod approximated closely to the extreme efficient limit in practical fly-fishing—assuming the caster to be wading knee-deep or sitting in a fairly high-sided boat. A quick eye and a prompt hand, trained by long practice, may extend this distance somewhat, but I believe not much. The stiffness of the rod used is also a variable factor effecting the result. I therefore personally prefer a rod as stiff as is consistent with pleasurable casting.

Practical Conclusion

If our mathematics are correct, the following practical conclusions would seem necessarily to follow:

Digitized by Google

1st. Invariably use as short a line as circumstances will permit.

2d. If it has not been done in the cast itself, at once elevate the tip of the rod until it forms an angle with the line, and let that angle be as near a right angle as the length of line in use and the reserved movement of the rod required to manipulate and retrieve the flies will permit.

3d. By no means draw the flies so far toward you as seriously to impair, much less altogether to lose, the power to strike. In either case you will almost certainly lose your fish, and in the latter your rod will probably be shattered.

The fault, or I should say faults, for there are two in number, notice of the prevalence of which impelled me to add to this chapter, are:

1st. A tendency to use an altogether unnecessary length of line; or, in other words, to shirk good water, within distances in which the advantage would be with the angler, to fish more distant and less promising places at a disadvantage.

2d. Postponing the back cast until the power to strike is nearly or quite lost.

I repeat, that he who has acquired the knack of casting with facility, without other and further knowledge of the art, is almost sure to err in these respects. I cannot too strenuously urge this upon the attention of the beginner. If the fish are very shy, the pool promising, and to be fished from the bank, cut a bush your own height; approach the pool slowly, holding it between you and where you suppose the trout to lie, and when you have reached your

Digitized by Google

station rest the butt end on the ground, supporting your blind with the left hand. When a fish is fastened get him into barren water as soon as possible, following him still, if you can, under cover of your blind. A very slight cover and the avoidance of quick motion are sufficient to insure success, if the fish are disposed to feed.

In regard to the second fault in our enumeration, that of postponing the back cast till the power to strike is impaired, there is a way to surmount it, which, though it may be in common use in some localities, I have never seen employed except by the gentleman from whom I borrowed it. For it may well happen that, when the angler would prefer to take his flies off the water, he has reason to suppose a trout is on the way to them. If the fish is a large one, the probability of coaxing a second rise may be doubtful. It is not wise to arrest the motion of the fly, since one has been found that is attractive, and who can tell, if it halts, whether he will not follow suit? So the temptation to postpone the back cast becomes almost irresistible, usually entailing the consequences of yielding to temptation.

I can give a case in point, and from my own past experience.

A Fish Story

It was September and was decidedly an off month in Maine waters. The weather held on warm, and the customary cold rains held off, in a most exasperating manner. So the big fish held off too. John and I made up our minds to follow them to where they lived. It was a tough job, involving lots of hard work, poling a light canoe-shaped boat over rapids, paddling it over pools, and lifting it over or

Digitized by Google

crowding it under the numerous giants of the forest, which the winter gales of years had uprooted and thrown into the stream. Thus we traversed some three miles of a river which, as far as known, had been fished but once before, and that five years previously. It was the perfection of a trout-stream—clear and cold, a succession of deep pools alternated with rapids, while the primeval forest through which it took its way shaded the waters, and furnished with its ruins abundant cover. Above and below I knew the stream well, and hundreds of trout had taken my flies therein.

The descending sun warned us that we would be benighted in the woods before we could regain our camp, as we entered the foot of the pool which we determined should mark our return. Yet not even one single rise had I had all day. It may be they had abandoned that portion of the river on the way to their spawning-beds, or they may have taken a pledge of total abstinence; but whatever the cause, such was the result, and a sufficiently aggravating result it was. For we had footed it four miles through the woods, and had forced a boat through some six or seven miles of quick water, the latter part greatly obstructed, and had cast all day long at every available opportunity, and had as yet caught nothing. A like return intervened between us and both food and shelter.

We entered the pool, the canoe gliding slowly over its placid surface under the impulse of John's skilful paddle. The still water was perhaps a hundred and fifty feet long, some seventy-five feet wide, and of unknown depth. Over and among "coarse rocks" the river poured in a heavy rapid into its upper end, and left it in the same manner. Surely few pools approach more closely the angler's ideal. The overhanging forest forced us to take pretty well to the middle, that there might be room for the back cast, and the position of the canoe compelled a cast somewhat ahead rather than abeam, in order that the fly should light

Digitized by Google

where the trout, if any, might be expected to lie. The motion of the boat in the direction of the cast continually tended to slacken the line, for which compensation had to be made by abbreviating the time during which the fly was allowed to remain on the water, by accelerating the motion of the rod when moving it, and by abridging the length of the cast.

At last I saw a gleam of gold down in the depths, and a trout appeared wagging his way upward toward my fly, with the deliberation characteristic of trout of size in those waters. As he approached the surface his vivid colors proclaimed his sex through the crystal water, and I was enabled to gauge his weight at about five pounds. Clearly he was a nice fish, and I assured myself of from twenty minutes to half an hour of such sport as would fully make good the labors and disappointments of the day.

But the time for the back cast had come, and he had not reached the fly. What was to be done? If it were taken from the water, and he turned to go back after seeing me, as he must do, and especially after seeing the motion incident to the back cast, there would not be one chance in ten of coaxing him up again. So, hoping that he would take it before the power to strike should be utterly gone, I reduced the motion of the fly to the minimum, and awaited the event.

At last he reached it, and the fly vanished. Then I struck with the vigor rendered necessary by the disadvantage that I was under, and stimulated by the consciousness that I had committed a stupid blunder. He turned downward, the bamboo doubled up, and the reel sang. In a moment the sound ceased, the rod straightened itself, the fly came back to me empty-handed, and he was gone.

No offer could have been fairer, and I could not for a moment blind myself to the fact that the loss was clearly my own fault. So I fell to abusing myself in no measured terms. Now, when a man attacks himself he is sure to get

Digitized by Google

the worst of it; so John, who at heart was doubtless as much disappointed as I, came to the rescue, and exercised his ready wit in the invention of excuses. But I silenced him with, "John, you know you are just as much disgusted with me as I am with myself. You know that that fish was lost by my own gross stupidity; there is really no excuse for it, not even that I knew no better. There, let us drop the subject and go back to camp. I am through fishing, at any rate for to-day."

Emergencies of this character arise continually in the experiences of every angler, especially if he fishes much in strange waters where he seeks to locate the trout by casting from a moving boat. The following is a remedy:

The rod should be so held that the line leads from the reel over all the fingers of the hand employed, except the first. Under that finger it passes, so that it may be compressed against the handle of the rod and checked at will, or relaxed, and allowed to render from the reel, by partially opening or tightly closing that finger.

Now, when the angler has reason to believe a rising fish will not reach his fly before it ought to be taken off the water, or when he has overcast a choice spot, and cannot draw his flies across it without wholly or in part losing the power to strike, if he will arrest his rod when in the most favorable position, and then, seizing the line with his left hand near the lower ring of the rod, draw it through the rings, being careful always to nip it with the first finger of his right hand when he shifts his left for a fresh hold, he can thus keep his fly still in motion, even to the extent of all the line he has out, and at the same time always retain unimpaired the power to strike. After the

Digitized by Google

fish is fastened, he may be played upon the slack-line hanging between the lower ring and the reel, by allowing it to render between the thumb and finger of the left hand, thus keeping up the required tension. In this manner he may be brought to the net if small; while if of such size that a protracted contest is to be expected, the slack-line will probably be wholly taken up by his first dash, and the angler will have him upon the reel, thereafter to be played in the usual manner.

Digitized by Google

Chapter XI

REPAIRS

THIS chapter has been written on the assumption that the reader is utterly ignorant of this most important branch of the art. That such actually is the case with altogether too many who are otherwise experts we all know. That such should not be the case we are also aware. Nothing in relation to the art will better repay the beginner, and those who lack this information, than a careful study —not merely reading over, but careful study in the scholar's sense of the term—of this chapter. For to say nothing of benefit to yourself at a crisis, what pleasure can be greater than to be able to rescue a brother angler from the consequences of disaster to his tackle, and to receive thanks which you know are really sincere and heartfelt? At the expense of a little trouble, nay, rather while amusing yourself, you have at the same time made a friend, and put him on the watch for opportunity to requite the obligation.

Many think this art hopelessly intricate, and are discouraged from any effort to acquire it; but this is a great mistake, for there is nothing in it insurmountable to the humblest mechanical skill. The most common error is to attempt the result while utterly ignoring the means by

Digitized by Google

which the result is to be obtained—as though a man should wish to keep books without first learning how to write.

First, acquire a few very simple principles, and the rest follows "like rolling off a log."

At the foundation of the majority of repairs lies covering and strengthening the injured part with a layer of silk thread, tightly wrapped around it. It is thus that rings are secured to rods, and breaks repaired.

Do you know how to wind a string around a stick? That is what we are about to do. But if you really wish to learn from what follows—if you really wish for success—you must, as in your every-day life, accept the conditions of success.

As to knots, and manipulations of that kind, the condition of success is this: Actually try each step with the book before you, and following its directions; be sure you understand that step before you essay the next. Thus you will be led to the goal as easily as you walk from your parlor to your dining-room, with hardly an appreciable effort. But if you attempt to cover the ground in either case with a leap, you court and will meet failure.

First Principles

Now to our lesson (see Fig. 1).

Take a round cane and a piece of fish-line, or string of similar size. Wax your string. It will facilitate you. Hold the cane in your left hand, knuckles up and thumb to the right. Place the end *A* on top of the cane somewhere near the middle, and nip it at *B* with the thumb

Digitized by Google

to keep it in place. Bring the end *C* over the cane on the side toward you, and downward; next under the cane, and upward, but on the side away from you; then over the top of the cane and the end *A*, and hold *C* in your right

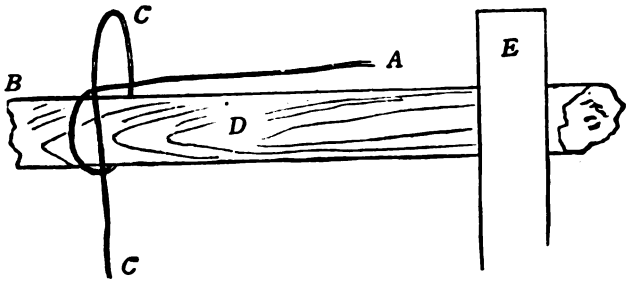


Fig. 1

hand. In brief, you have wrapped the part *C* once around the cane and over the part *A*, confining that part to the cane. Now, placing some part of the cane to the right of where you have begun to wind, behind anything, *E*, against which you can pull, proceed to turn the cane around on the axis of its length, keeping a steady strain on the end *C* with your right hand. You thus roll the line upon the cane, just as thread is rolled on a spool, or a rope on a windlass, drawing your right hand up to the cane, unless you allow the line to slip through your fingers. You will have no difficulty in guiding the part *C*, so that each turn shall lie in close contact with its predecessors.

You have rolled on four complete turns, which envelop the cane and the part *A* (Fig. 2), confining the latter to the cane. Now shift your left thumb over upon and nip the coils you have just made, *c*, so they cannot unwind. Seize

Digitized by Google

the end *A* and draw the slack of the first turn, *b*, up to and against the others. Then continue your winding for any desired length, always doing this by using the cane as a roller, turning it from you. You will make each succeeding turn lie more neatly against its predecessor if you allow your right hand to be drawn up to the cane, rather than permit the line to slip through your fingers. When shifting the right hand backward for a fresh hold on the part *C*, nip the turns you have completed with the thumb of your left hand, lest they unwind; as, indeed, you will do in any case when you wish to free your right hand for the moment.

We have now completed the first step. You see that it is a simple matter, and one within the scope of the most

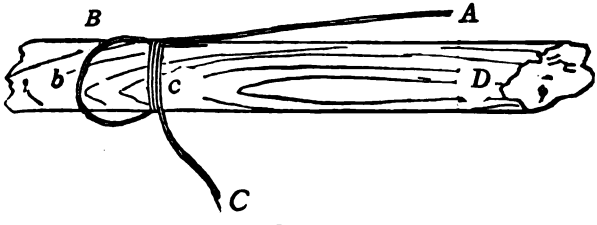


Fig. 2

limited mechanical ability. Notwithstanding, repeat this at least four times more, winding an inch and a half each time, before proceeding to the next step.

This is to fasten off the end *C*, for we cannot hold it forever.

The Invisible Knot

There are two methods of accomplishing this—one easily acquired, but of more limited applicability; the other a

Digitized by Google

little more difficult, but at the same time equal to every emergency.

The first consists merely in this—that instead of placing the end *A* as before, you double it as shown in Fig. 3, placing the bight *a* where the end *A* was in the former case, and

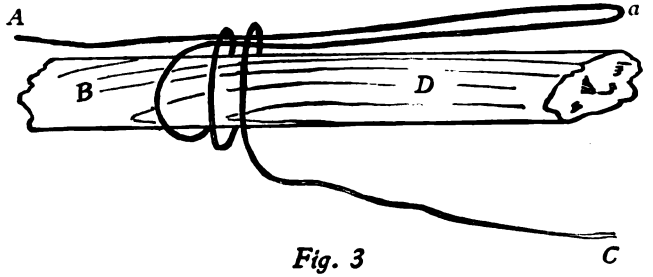


Fig. 3

letting the actual end *A* extend at least three or four inches to the left of where you wish to wind. Having completed your winding, nip the coils with the right thumb. Then with the left hand pull on the end *A* until you have reduced the bight *a* to very small dimensions—say one-quarter of an inch or less. Now with the right hand cut the part *C* about two inches in length, and insert the end through the bight *a* close to the winding. Then, seizing the end *A*, draw the bight *a* through and under the winding, which will of course carry the end *C* with it, and confine it under the coils. Then cut off the ends close, and the job is complete. Try this at least four times, and then proceed to the next step.

This is the real "invisible knot," and a knowledge of it should be considered absolutely indispensable to the angler. Begin as before. Having wrapped four or five times over

Digitized by Google

the end *A*, so that it is perfectly secured, cut it off as close as you can to the wrapping, so that you have only the end *C* remaining. Now proceed with the winding until within four turns of as far as you wish it to extend; then nip the coils already made with the left thumb so they cannot unwind, cutting off the end *C*, so that it is about a foot long. Now drop it down between you and the cane, next under and then upward behind the cane, so as to form a loop, say, three inches across, hanging below the cane. (Fig. 4.)

If you meet any difficulty at all with this knot it will be here. Remember the end *C* passes downward on the side *toward* you, and upward on the side *away* from you. Hold

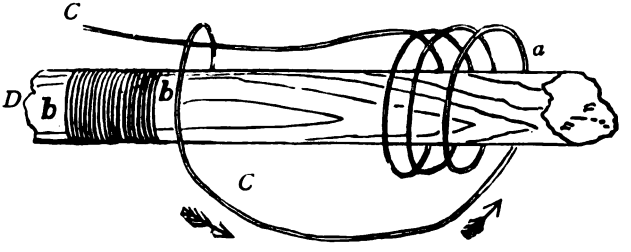


Fig. 4

the cane, as soon as you nip the coils with your left thumb, so that hand points to the right, and the first and second fingers are free. Throw the large loop over those fingers to keep it open. Then make three or four turns of the end *C* *between* the point where the large loop meets the cane *a*, and the windings you wish to fasten, *b*, winding *toward* the latter. You will find this operation facilitated by throwing the end *C* at every turn, after making the large loop, between the first and second fingers of the left hand, holding

Digitized by Google

it thus until you can reach over the cane with the right hand, and draw the end *C* through the loop. Now pass the end *C* to the left, under the left thumb, and hold it down *on* the windings already made, *b;* then hook your right first finger in the large loop, and, putting a strain on it, revolve the cane and proceed with the winding as at first. You will thus wind on as many turns over the end *C* as you made between *a* and *b*, and in close contact with those you wish to fasten. For every wind you so add you will, if you have followed the directions carefully and correctly, see one of those between *a* and *b* unwind, and will at length have the result shown. (Fig. 5.)

Now seize the end *C* and draw up the slack of the large loop until it lies in close contact with the windings you are

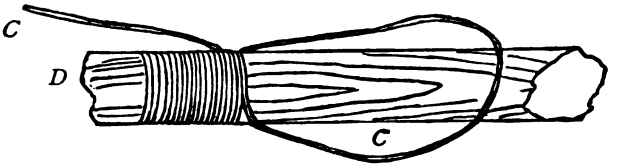


Fig. 5

fastening. Cut off the end as close as you can, and it is done. Repeat this until firmly fixed in your mind, and you have made an acquisition that will many times repay the trouble.

Now let us apply this lesson, taking at the same time another step forward.

SCENE.—*Trout-stream.*

ANGLER, *meeting a very melancholy-looking individual with the fragments of a trout-rod in his hands;* NOVICE, *equipped for fishing, but with a broken rod. Time,* 8 A.M.

ANGLER. Good-morning, sir; what luck?

NOVICE. The trout are rising fairly well; I have caught

Digitized by Google

a few nice ones. But I have just had the misfortune to break my middle joint about a foot below the smaller end. I have come a long distance to enjoy a couple of days' fishing, and my opportunities are few; and as I have no spare piece to take its place, I am afraid my fishing is at an end unless I take to bait, and for that I have little taste. So I suppose I may say I have had poor luck.

ANGLER. How did it happen?

NOVICE. It may be that I was using too long a line for the distance I wished to cover. I saw a nice-looking spot, and when I cast, my flies reached the water considerably beyond it. Instead of shortening my line, I undertook to draw my flies across the spot; and when my rod was nearly upright, a nice fish struck my drop-fly, and you see the result. I am but a beginner, having fished with the fly but a few times before, and am self-taught. I suppose I must expect to make mistakes, but it is none the less provoking to lose all the sport which I had anticipated with so much pleasure.

ANGLER. Many a good rod is broken in that way. Let me see the break. Why, this is not so bad. Why don't you splice it?

NOVICE. I don't know how.

ANGLER. Have you silk, wax, and a file in your fly-book?

NOVICE. No, I have nothing of the kind, I am sorry to say.

ANGLER. It will make no difference, for I have them. And since you say you are a beginner, I will repair this accident for you, and at the same time give you a few hints which may be of value in the future.

NOVICE. I shall be very much obliged if you will be so kind.

ANGLER. It is, or should always be, a pleasure for one angler to help another; so look and listen, and if there is anything you do not understand, stop me at once. But first I would say, never go on a stream again without plenty of silk, of the sizes known in the stores as A or B, in your

Digitized by Google

fly-book, together with a little cobbler's wax flattened out between the folds of a piece of an old kid glove. A quantity of wax which, if spherical, would measure half an inch in diameter is about the thing. Also you should have a flat file of rather coarse cut, and with the blade from five to six inches long and from one-half to three-quarters of an inch wide, like this. You see the tang is broken off the file, and thus shortened I can carry it in my fly-book, and never know it is there till I need it for use.

Now see: I take my pocket-knife and cut a long slope on each of the broken ends, being careful to make them incline in different ways, and of such slope that when they are laid together the rod will not be larger than before. I also see to it that the splice is so situated that the rings on the two pieces will be in line when they are united. There, I have finished cutting, and you see when I place the pieces together the rings are in line; but you also notice that the joint is not a very good fit. Now we will resort to the file. You notice that I lay the file down and place the splice upon it; and while rubbing the joint to and fro on the file I press the wood down upon it with the fingers of my left hand. From time to time I look at the splice, and see how the filing progresses. (Fig. 6.)

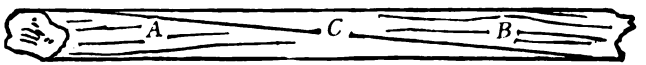


Fig. 6

A B, portions of broken joint; *C*, splice.

The file will cut most rapidly where the pressure is greatest, so that by varying the pressure with a little judgment the splice is soon made perfectly true, as I have done this. Now we will finish the other; so, there they are complete. Now place them together and see what you think of it.

NOVICE. They fit perfectly. The rod is not enlarged and the rings are in line. I am astonished that it could be done

Digitized by Google

in so short a time, and by means so simple. I really believe I could do it myself.[1]

ANGLER. Without the slightest doubt. In mechanics, as in life, skill consists in adapting your means to your end; the desired result then almost necessarily follows. You see that when I rubbed the splice on the file only the high places touched. Of course these were soon cut away, and the surface became even of itself, so to speak.

Now we have to unite the splice, and you will then be ready to continue your sport. If this was in the evening I should melt some fresh glue—fish-glue (or isinglass as it is sometimes called) if it could be had. Having completely melted some of this in sufficient water, so that it felt between the thumb and finger as if it had considerable, but not too much, body, I should apply it to each surface, bring them together, wrap them tightly with a dry string, then wet the string with warm water to swell it and make it still tighter, and set it away till morning. Then you would hardly have been able to find where the wood was joined together.

NOVICE. I have tried to use glue, but could never make it stick any to speak of.

ANGLER. Considerable art, or, I should say, a little knowledge, is required to use glue successfully. In the first place, where all possible strength is required, as in fishing-rods, the glue used should be perfectly fresh. By that I mean glue that has never been melted before. It should by no means be too thick, since then it rapidly gelatinizes, and in this condition it has no adhesive power. The best test is to try a drop between the finger and thumb; if it feels slightly unctious, it is thick enough. Then warm the surfaces to be united, apply the glue, and tie them together as

[1] If the means or the skill to make a perfect fit are wanting, the splice should be so made that the joint is there enlarged; otherwise it may be "soft" at the splice—*i.e.*, inferior to the neighboring parts of the rod in stiffness—when it will almost certainly give way again. Subsequently, and under more favorable circumstances, the splice can be taken apart, properly fitted, and permanently repaired with glue.

Digitized by Google

described, and you will have no difficulty. Fish-glue is to be preferred, particularly that known as "Russian isinglass," since it has more strength in the first place, and that strength is not so apt to become impaired by time; but it must be handled promptly, since it soon jellies, in which condition it will not stick at all. Some advocate adding a drop or two of nitric acid to the melted glue, or melting the glue in vinegar, either of which will destroy this gelatinizing property, so you can take your time in uniting the fragments; and they insist that this does not impair the strength of the glue. While this seems to be true, these liquid glues have one very serious defect not to be overlooked, the more particularly since they may now be bought at almost any hardware shop, and their always-ready character makes them so convenient to use. They, one and all, as far as I have ever seen, are prone to absorb moisture if given the opportunity, and so loose their grip. Good, ordinary glue, well applied in the ordinary way, will resist unimpaired many times an exposure fatal to the liquid glues. They are, therefore, in my judgment, unfit for rod work. Some prefer to melt it in skimmed milk, since glue so prepared is insoluble in water after it dries. Some, again, soften the glue by soaking it over night in cold water. The next day it will resemble a stiff jelly, though retaining its original form. These pieces are then dried with a cloth, and melted in boiled linseed-oil, and thus another waterproof glue can be made. This last is, however, a tedious drier. But I have always feared to try these when anything depended on the result, and so cannot speak of their respective merits from my own knowledge. One thing, however, I do know, that if your joints fit and are tightly brought together, so as to squeeze out all the glue possible, it will, even with ordinary glue, take hours of soaking in water and the subsequent application of considerable and continued heat before they can be separated.

But this repair must be made on the spur of the moment,

Digitized by Google

so gluing is out of the question. You see I warm the splices and my cobbler's wax and coat both the former with the latter. I now place them together in the position in which they are to remain, squeeze them tightly together so the layers of wax between will coalesce, and hold them in that position a moment for the wax to stiffen a little. I now wind this string around them for about half their length to hold them in position, and they are ready to wrap with silk. Having waxed my silk well with the cobbler's wax, I wind it on, as you see, as tightly as the strength of the silk will well bear, being careful that each turn shall lie close beside its predecessor. I have wound up to the string, which may now be removed, since the wrappings already on will steady the splice; and now I have wrapped the splice its whole length, and it only remains to fasten the winding, and we are through. Watch me closely. You will notice I cut the silk so I have about a foot of end. I hold the windings already made in place with my left thumb, pass the end of the silk downward between me and the rod, under it, upward on the other side, and then over the rod. Thus I make a large open loop, *within* which I take three or four turns of the end around the rod, and running *toward* the completed winding that I am holding with my left thumb. To these two points I wish particularly to call your attention, since if you make no mistake here you will have no difficulty in mastering this knot. I then finish thus, and cut off the end as close as I can. You see it requires close inspection to discover how the silk is fastened, so neat is the finish. This is one of the most valuable acquisitions an angler can make, for without this knot I could not have securely repaired your rod. As soon as you conveniently can, cover the winding with two or three coats of shellac, or, better still, some oil varnish, if you can wait for it to dry, and your rod will, if you meet with no further accident, last for years. Now put it together and try it. How does it feel?

Digitized by Google

NOVICE. It seems a little stiffer, and lighter in the hand than before.

ANGLER. Both necessarily follow from shortening the rod, which of course cannot be avoided in making a splice. But I notice a ring is missing from your rod. Bring it to me this evening at the farm-house where I am lodging and I will replace it.

NOVICE. I am a thousand times obliged to you for your kindness.

ANGLER. Not at all. Only remember never to go fishing again without silk, wax, a knife, and a file; for with these you can repair on the spot most of the accidents to which an angler is liable, while without them you will be helplessly crippled. Good-day, and good-luck!

TIME, *evening; same characters.*

NOVICE. Good-evening! You see I have brought my rod as you suggested.

ANGLER. You have done well. What luck did you have after we parted this morning?

NOVICE. Oh, not so bad. But it is not essential to my enjoyment of stream fishing that I take a trout every five minutes. The cool, fragrant air, the music of the running water, and the beauties of the trees and flowers which shade and grace the stream—these, together with the constant endeavor to improve my cast, and the sense that my efforts were not in vain, made the day one constant pleasure, though I caught but few fish and those not large.

ANGLER. You have the true angler's spirit, and this makes it a double pleasure to assist and instruct you.

NOVICE. Before we enter on new ground, I should like to ask you one or two questions about mending broken rods. How long should the splice be by which the fragments are united? For it seems to me that a short splice can hardly stand the strain inseparable from use; while, on the other hand, an excessive length unnecessarily shortens the rod.

Digitized by Google

ANGLER. The question is very pertinent. The length of the splice should be at least twelve times the diameter of the joint at the break, perhaps even a little more if the rod is very dense in the grain. It is well in such case to roughen the surfaces you propose to unite, or to score them obliquely and in a criss-cross manner. (Fig. 7). But these scores should be very oblique and very shallow or you may divide

Fig. 7
A, joint; *B*, splice, scored.

and so lose the strength of some of the fibres. The purpose is to give a better hold to whatever adhesive substance you use to unite the parts.

NOVICE. It has occurred to me that the method you showed me this morning is not applicable to a break close to a ferrule, for there is then nothing to form one part of the splice from. What course should then be followed?

ANGLER. This is either one of the most difficult, or one of the simplest, of emergent repairs, according to the construction of the rod. If the rod is united by simple ferrules without dowels, and if the ferrules are merely cemented in place instead of fastened by a pin, then the repair is a trifling matter. And after balancing all I have heard or can imagine on all sides of the question, I cannot but think that both the dowel and the fastening pin should be excluded from fly-rods. I have been driven to this conclusion not merely because of difficulty of repair, but by other considerations of equal or even greater force, into the discussion of which we will not enter now.

When the rod gives way at the ferrule, the break is always short across. If you have no dowels to consider, trim the broken end square with your knife, warm the ferrule and push out the broken portion, and replace the ferrule on the joint, using some of your cobbler's wax to

Digitized by Google

cement it in place. But if your rod has dowelled ferrules—by which I mean those in which the upper ferrule is provided with a tenon to enter and fit a hole in the joint below—then, if your rod is a fine one, you are indeed in trouble. Let us assume the break to be above the male, or entering, ferrule. You have now the accident in its least embarrassing form. For if you have means at hand to drive out the fastening pin, you can burn out the broken piece, and proceed as before. The construction of a new dowel from the body of the joint itself should never be attempted, since, aside from the difficulty of making it perfectly central and a good fit, it shortens the rod to a degree not to be thought of, except in case of absolute necessity. The maker will, on your return home, insert a new piece, and the loss will be only equal to the length of your ferrule.

If, on the other hand, the break is below the female, or outside, ferrule, the accident is more serious. Assuming you have cleared the ferrule of the broken portion, and can replace it as before, how are you to bore the hole to receive and fit the dowel? This clearly requires a special tool not readily found in the neighborhood of most trout streams. The only practical recourse is, then, to cut off the dowel from the male ferrule, replace the female ferrule as before, and use your rod without the dowel, until you can put it in the maker's hands.

If the dowel seems part of the metal of the male ferrule, as is generally the case in fine rods, you must file or saw it off only as a very last resort. It is usually only united to the ferrule by soft solder, and if you heat it well you can unsolder and remove it without injury.

Some rods, however, are mounted with ferrules the bore of which is smaller at the mouth than within. In such the dowel is absolutely indispensable, since it alone steadies the end of the entering joint and prevents it from shaking. I cannot but think this a vicious construction, if for no other reason, because it offers not the slightest advantage over the

Digitized by Google

cylindrical ferrule, while a break of the kind under consideration at once disables the rod beyond immediate repair.

NOVICE. One other question: bamboo is so dense and flinty that I should think it difficult successfully to mend such a rod by splicing. Am I correct in this?

ANGLER. Partly so. Tips may be repaired without difficulty, and a break in the upper portion of the second joint is not hopeless. But I have never been able to make a splice in the lower half of such a rod, though I have tried repeatedly. The splices must then be made extra long, and well scored; and with this the user must rest content until he can replace the broken joint by a new one. His rod will then hang together and can be fished with, but he will find its action so impaired that its use will give little pleasure. Does any other question occur to you?

NOVICE. No, I think of nothing more.

ANGLER. Then let us replace that ring on your rod. But I see you have lost the end ring from your tip as well.

NOVICE. Oh, never mind that; I have another one.

ANGLER. We may just as well do both, and then at some future time you will be able to aid or instruct some brother angler in both of these particulars.

If we had some spare rings, or even some small copper or brass wire, it would help matters; but as neither of these is at hand we must resort to pins for our material. You see I insert the points of these pins in a stick, and heat them red-hot in this lamp, for a pin as it comes from the manufacturer is too stiff for our purpose. Now that the points are cool, I cut off the heads and insert those ends in the stick, and repeat the process. Now they are annealed, and we can proceed. I take a small round stick—a match will do—and, applying it to the middle of the pin, bend the latter around it, thus forming a loop. (Fig. 8.)

I now insert the loop in a crack in the floor or in a cleft stick to serve as a vise (since we have neither the latter nor a pair of pincers), and twist the ends of the pin around

Digitized by Google

till they are at a right angle with their former position. We now have, in effect, a straight wire provided with a loop at a right angle in its middle. I then file the two ends, top and bottom, tapering them gradually away from the loop to a sharp edge at each extremity. I now wind this on with waxed silk in its proper place, and it is finished. (Fig. 9.)

NOVICE. I am very much obliged; but had I not been so anxious to learn this I should not have permitted you to trouble yourself over so trifling a matter.

ANGLER. You must not think so. A rod should be provided with plenty of rings, since they equalize and distribute the strain over the whole length of the rod. Thus, while its aggregate may be great, it will at no one place reach the breaking-point. And while I would not recommend you

Fig. 8

A, body of pin; *B*, loop made in middle of pin; *c* and *d*, ends of pin.

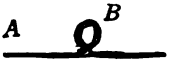


Fig. 9

A, body of pin, showing sharpened ends; *B*, loop.

to suspend fishing at a favorable moment, merely because a single ring became detached, still you should replace it before the next day.

Now let us put a new end on your tip. I bend the second pin around the match as before. I then thin the ends in the same manner, omitting, you notice, to twist the loop. I now bring the ends together, thus, in the form of a tuning-fork, give a slightly wedge-shape to the end of the tip, insert it in the fork of the tip end, and wind it on with silk. It will not be amiss to give the loop a bend toward the ring side of the tip, since then the line will render better. (Fig. 10.)

NOVICE. But I notice that in this case you did not make your "invisible knot" in the way you showed me. This seems much simpler.

Digitized by Google

ANGLER. The principle is exactly the same. In the case to which you allude it was tied in the middle of a joint, and under such conditions it must be made in the way shown you. But here there is no long piece extending

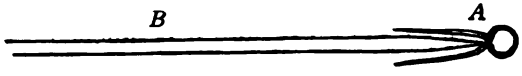


Fig. 10

beyond where the knot is to be, and we can take advantage of this circumstance. I will repeat the knot for your benefit. Having wound as far as we wish, I make the loop *C*, holding the windings already made firmly with my left thumb, exactly as before. Having first cut off the silk so as to leave me about a foot of end, *A*, I place this end upon the windings, and hold it there; I then proceed to wind *over* it, *A*, exactly as if it were not there, and as though I were merely extending my winding; and this to the extent of four turns or so. If in so doing the silk has fouled the ring *D*, I clear it; and you see I have the end *A* projecting toward the left and fastened by some turns of silk over it, and a loop, *C*, on the right. (Fig. 11.) Now when I pull on the end *A* the loop *C* diminishes in size, until

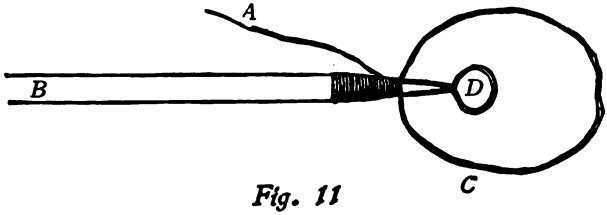


Fig. 11

it disappears altogether, and the fastening is complete. This knot is the one with which the heads of flies are finished.

NOVICE. You seem so willing to give information that I should like to ask you a few more questions. This evening

Digitized by Google

I could hardly get my rod apart; the ferrules stuck so tightly; yet they went together easily enough in the morning. Is there a remedy for this?

ANGLER. Yes, and a most simple one. If you will tallow or oil your ferrules, and then wipe them dry before you joint your rod, you will never be troubled that way; and this should be repeated every third or fourth day, if the rod is left together so long. But if you have neglected this precaution, and the ferrules stick fast, do not call a friend and go at the joints as though you were wringing clothes; but warm the obstinate ferrule over a lamp chimney, and it will easily separate. You must remember that the object is to expand the outer before the heat reaches the inner ferrule; and to do this the heat must be applied but for a few seconds, turning the ferrule constantly so that all parts may receive their due proportion, and then try to separate it. If it refuses, repeat the operation until it consents.

Heat, properly and continuously applied, is extremely efficacious when opposed to obstinacy of any form—a principle well known even prior to the Middle Ages, though its highest development was then reached. If, however, the angler seizes one joint and his friend the other, a sudden and powerful jerk will often separate ferrules which have obstinately resisted both torsion and a steady pull.

NOVICE. Here is a fly, the only one of the kind I have. The trout seemed to have a decided preference for this to-day, but the gut is so frayed that I fear to use it to-morrow. Can it be repaired?

ANGLER. Yes; it will not look very well, but it may be used. Let me see the fly. Have you a spare piece of gut, or if not, a spare leader, from which we can cut a foot or so?

NOVICE. Here is a leader.

ANGLER. First we will soak it in tepid water till it is soft; then, saving the looped end intact, we tie a hard knot in the other end to prevent its slipping; then we wrap it above the knot with well-waxed silk onto the upper side

Digitized by Google

of the hook, just below the body, and over the tail; then part the wings with a pin, and lay the gut in the division and upon the upper side of the body, and fasten it again with silk over the wing fastening. Now we catch the hook in or around anything that will hold, take a good pull on the gut to be sure it will stand, and it is complete.

NOVICE. Are there any other accidents likely to happen to the angler which you have not mentioned, and which admit of repair?

ANGLER. We have certainly covered almost all—and I can think of no others. You see the "invisible knot" lies at the foundation of all these repairs, so be sure to perfect yourself in it.

It sometimes occurs that an angler buys a new rod, or a new reel, and finds the one will not fit the other; but he can tie the reel to his rod with a string, or, better still, a leather thong, and it will work just as well.

It may happen that he frays his line on a sharp stone or otherwise, so that he thinks it no longer safe. In this case, if unprovided with a spare line, he may cut out the doubtful part, melt his wax, or at least make it quite soft so that it will penetrate well into the line, coat about an inch of each end well with the wax, lap and squeeze, and sew them together with a fine needle, and then wrap tightly with well-waxed silk, and thus remedy the defect. If it is an enamelled waterproof line, the ends may be scarfed a little with the file to roughen them, and give the wax a better hold. This splice, if neatly made, will render through the rings very well, but a test strain of at least six pounds should be applied before using it; for if it will not hold it is better to know it, and repeat the operation.

He may forget or lose his landing-net. In stream-fishing he can then land his fish on the bank, if it is sloping, or if not, slide his hand down the leader and grasp the fish by the gills. In either case he should play his fish until quite exhausted. Then, throwing his rod behind him and over his shoulder,

Digitized by Google

grasp the leader with his left hand, carry the part seized to his right hand, which holds the rod, there take it between his thumb and finger, holding it so he can at once let go if the fish shows signs of activity, and repeat this until the fish is quite close. But during this delicate operation there must not be the slightest approximation to a jerk; everything must proceed quietly and by an even, steady motion. He can then slide his hand down the leader and grasp the trout, in which he will be much aided by a thread-glove with the fingers cut off; or he can lead the fish toward the bank, and by a sudden but steady increase of force throw him out.

Any effort to lift or throw the trout out by the rod will probably be followed by disaster. Not that the rod will break, but the weight of the fish in air so exceeds that in water that the impulse given will carry it but a short distance on the shore; and when it strikes the ground it unhooks itself with the first flop, while the angler performs like a cat on a stove in the vain endeavor to kick it higher up on the bank. I have seen, nay, I have myself, lost many good fish in this way.

If he is to fish from a boat, and no landing-net can be borrowed, let him make a gaff out of a piece of telegraph or other stiff wire, or tie three or four hooks, the largest that can be had, on a stick, and use that for the same purpose.

Occasionally the screws of a reel show a tendency to work loose, caused by the jar of the click and indifferent fitting. The remedy is simple: withdraw the screw, and insert a waxed thread to the bottom of its hole; enter the screw beside the thread, and about three-quarters of its length; then cut off the projecting end close, and turn the screw down to its head.

Broken rods, when the break is in the upper half, may be temporarily repaired much more speedily than by the method I showed you, though not so well. All that is neces-

Digitized by Google

sary is a piece of twine and a rubber band or two—those about half an inch wide are best—and as long as possible. Cut the rubber band so as to form a strap, lap one part of the break over the other without any trimming, wrap the rubber band around the lap, stretching the rubber well when so doing, and tie its end down with the twine so that it cannot unwind. The lap should be covered with at least a double layer of well-stretched rubber, using one or more bands as may be required.

Breaks in the upper half of a tip may be very nicely repaired with a quill. The quill is to be soaked in water, preferably warm, until quite soft. It is then to be split lengthwise on one side, flattened out, and one edge trimmed until it just fits when wrapped over the break. When so fitted the quill is to be wrapped over the break and tightly wound with silk its whole length. Then it is allowed to dry thoroughly so as to regain its pristine stiffness, and well varnished.

There, I think I have covered all the repairable contingencies.

Digitized by Google

Chapter XII

WILDERNESS CAMPS AND FISHING

LET us consider a few details connected with a long camping trip when one cuts loose from the base of supplies. In the preceding parts of this book we advanced from back-yard camping to camping away from home, but camping, nevertheless, of a domestic character, since it implies a fixed camp usually within reach of such luxuries as fresh milk and vegetables. At the end of Chapter IV a list of supplies was given which indicates the essentials for wilderness camping.

A Few Outfitting Points

While supplies can be taken from reliable grocery stores near home, there are almost always dealers near the approaches to the camping-grounds who specialize in outfitting. For example, in the Moosehead Lake region of Maine there are storekeepers at Greenville at the foot of the lake and at Kineo. They are accustomed to outfit logging-camps as well as sportsmen. Tents and blankets can be rented, and the guides, in addition to canoes, have cooking utensils. The prices at such places are, of course, higher than at city stores so far as the staples are concerned. Outfits can be obtained

Digitized by Google

in Portland and Bangor for Maine trips or in Halifax if the camper has Nova Scotia in mind, or at St. John if it is a question of New Brunswick, or at Quebec or Roberval for ouananiche fishing, or at St. John's, Newfoundland, for a trip on that island, or at Montreal, Toronto, Winnipeg, or usually wherever the nearest important point of departure may be. In other words, it is not necessary to burden one's self with staples carried from home. In Canada, the stores of the Hudson Bay Company can be depended upon for reliable supplies. But bear in mind that while it is desirable to have something acid, like pickles and a few lemons, and also something sweet, in addition to the pork, bacon, flour, etc., which are the foundation, all these things must be transported in a canoe, and often by hand, and superfluities are to be avoided.

Personal Belongings

Bear in mind, also, that everything must be packed, usually in water-proof canvas bags or tins, so that the supplies will keep dry and be carried readily. Wet blankets and wet flour have been the bane of many a camping trip. As to one's own outfit, whatever the choice of clothing may be—Dux-bax, khaki, or wool, oil-skin suit or rubber coat, moccasins with stout insoles, hunting-boots, or strong walking-shoes—it is essential that clothing, underwear, and toilet articles should be kept dry. A wilderness camp is no place for dress-suit cases. In the water-proofed ditty-bag or reinforced camping-bag described on page 40 can be placed small bags of denim or any strong material, one to contain

Digitized by Google

toilet articles and pocket-mirror, another underwear, etc., so that these more personal articles may be kept by themselves. There should also be a large water-proof bag for blankets. Water-proof cans or boxes for matches, a guard on hatchet or axe, a well-protected and reliable compass are among the things which are so obvious that they are frequently overlooked. In addition to the usual strong pocket-knife, a good sheath-knife will often prove useful. Mr. Kephart's "Check List" in his *Book of Camping and Woodcraft* is worth consulting, although written for men and largely with a view to hunting trips.

For a wilderness trip it is well to take three rods—a reliable split bamboo fly-rod, an ash and lancewood or well-tested greenheart or bethabara rod with interchangeable butts and tips which can be used either for bait or fly fishing, and a stout wooden trolling-rod, if it is likely to be used. This implies a fifty-yard braided-silk water-proofed line for fly-fishing, and reel, and a trolling-line of double the length, and a multiplying reel. Flies and trolling gear are to be selected according to the best advice to be had regarding the particular trip to be undertaken.

The Vexed Question of Guides

This advice should include everything attainable in regard to guides. It must be confessed that the old-fashioned, simple, thorough-going woodsman, with his heart in his outdoor life, too self-respecting to be looking for tips and "soft snaps," is not common to-day. The advent of wealthy sportsmen everywhere has wrought many changes—often not

Digitized by Google

for the better. With the increasing number of public sportsmen's camps, of public conveyances on carries or portage paths, of logging steamers on lakes which will transport canoes, and other aids to ease, the camper is obliged to consider a rapidly mounting bill for expenses in addition to three dollars a day each for the guides and the cost of the outfit. Many campers are emphatically "tenderfeet." Of these many guides will take full advantage. This is not an agreeable subject, but it happens too often that the camper from the city is regarded as simply the summer harvest for the lumberman, farmer, or whoever it may be who seeks to glean this harvest in the capacity of guide. In Maine and in the Adirondacks and some other places there are associations of licensed guides, and their secretaries may be consulted. But the best plan in choosing guides, as in choosing the route for a camping trip, is to obtain personal references and verify them carefully. Get the experience of those who have tried the men. And this counsel applies emphatically to camping trips in the West, especially in the case of more elaborate journeys with horses and pack-trains.

Secondly, after verifying the quality of a guide, have a clear understanding at the outset as to your wishes and plans, the rate of travel, the time, the chances for sport, questions of expense and extras, and, finally, as to the disposition of supplies at the end of the trip. It is all very well to present unused supplies to a guide if one wishes. It is quite another matter for a guide to disappear silently with a quantity of supplies, many unopened, as happened to the writer at the end of a recent trip in the Moosehead Lake region. When guides make their headquarters at large hotels or sporting

Digitized by Google

camps, the proprietors would do well to exercise a closer supervision than they are usually inclined to do. But it may be said again that the lavishness and laziness of many of the "city folk" who go through the motions of camping are responsible for much of the demoralization that exists.

There is a club of sportsmen in New York who are endeavoring to make a card-index list of guides and their characters, but this is naturally for the use of members. An adequate information bureau open to the public would be of the utmost value. Failing this, make your inquiries for yourself, thoroughly and in ample time. Honesty, sobriety, knowledge of the country, of fishing grounds, and of woodcraft, culinary ability, energy, good-nature, and patience are among the points to be taken into account.

Insect Pests

"Nessmuk's" favorite prescription for keeping off black flies and mosquitoes is as follows: "Three ounces pine tar, two ounces castor-oil, one ounce pennyroyal. Simmer all together over a slow fire and bottle for use. You will hardly need more than a two-ounce vialful in a season. Rub it in thoroughly and liberally at first, and, after you have established a good glaze, a little replenishing from day to day will be sufficient." This is from his well-known book *Woodcraft*. Another receipt substitutes vaseline for the castor-oil.

Among other safeguards against insects are the oils of citronella, pennyroyal, cloves, verbena, lavender, and lemon grass.

In his comprehensive *Book of Camping and Woodcraft*, Mr.

Digitized by Google

Horace Kephart sums up his experience in favor of tar "dopes" in comparatively cool climates, although he finds them less efficacious in hot countries. His ultimate summing-up is that "the most satisfactory all-around 'dope' that I have found to discourage attacks by mosquitoes, flies, midges, fleas, and ticks is oil of citronella."

There are many black-fly ointments and other remedies which are prepared and sold at drug stores and sporting-goods stores, and some of them are reasonably efficacious. But either "Nessmuk's" tar-oil preparation or the oil of citronella will serve any ordinary purpose.

Warnings for Campers

The camper in Maine will probably be visited by a fire-warden who will take his name. He will also see printed warnings posted conspicuously along the rivers.

The Forest, Fish, and Game Commission of New York posts the following notice:

FOREST FIRES

RULES AND REGULATIONS TO PREVENT

Fires for clearing land near a forest must not be started until the trees are in full leaf. After such fires are lighted, competent persons must remain to guard them until the fire is completely extinguished; and the person starting such fires will be held responsible for all damages, notwithstanding notice may have been given to the fire-warden.

Fires will be permitted for the purpose of cooking, warmth, and insect smudges; but before such fires are kindled sufficient space around the spot where the fire is to be lighted must be cleared from all combustible material; and, before the place is abandoned, fires so lighted must be thoroughly quenched.

Digitized by Google

All fires, other than those hereinbefore mentioned, are absolutely prohibited.

Hunters and smokers are cautioned against allowing fires to originate from the use of firearms, cigars, and pipes. Especial care should be taken that lighted matches are extinguished before throwing them down. All persons are warned that they will be held responsible for any damage or injury to the forest which may result from their carelessness or neglect.

Girding and peeling bark from standing trees is prohibited. Fallen timber only may be used for firewood.

Foresters, fire-patrolmen, game protectors, and all citizens are requested to report to the Forest, Fish, and Game Commission immediately all cases which may come to their knowledge of damage or injury to forest trees arising from a violation of these rules.

By order of the Forest, Fish, and Game Commission.

Another notice is issued by the Commission in regard to camping on State land.

INFORMATION FOR CAMPERS

Any citizen may camp temporarily on the State land in the Adirondacks, the Catskills, Lake George, and the St. Lawrence River. No written permit is required, nor can one be granted by anybody. The constitution of the State of New York provides that the land in the Forest Preserve can neither be leased, sold, nor exchanged, but must be kept as wild land for the enjoyment of the people. Tents are the only structures permitted in the woods, but board floors may be used. No person is entitled to call any particular site his own from year to year. Portable houses are prohibited. So is the erection of any permanent shelter, such as a bark house, lean-to, or log camp. Peeling bark is absolutely prohibited. [The balance of the notice refers to fires.]

Some Familiar Fish

Here are a few general notes upon familiar game fish which are due to Mr. Burt,[1] with the exception of the last note on the ouananiche.

[1] *Camp Fires in the Wilderness*, by C. W. Burt, Forest and Stream Publishing Company.

Digitized by Google

The Brook Trout[1]

The brook trout is beyond question the handsomest and most delicate fish to be caught in Maine. It is found chiefly in the cleanest and purest cold water of the mountain streams, and subsists almost entirely on live food. As the spawning season approaches, the trout ascend the small streams, seeking shallow spots with clean gravel bottoms, over which a good current flows. Here the female sweeps away the sand with her tail, and, pushing aside the gravel with her nose, forms a shallow nest. In this the eggs are deposited, and when fertilized upon by the male are covered with loose gravel and left until hatched.

I have found the best trout flies for Maine the Montreal, which has a dark-crimson body with gold tinsel; and the Red Ibis, which has a scarlet silk-ribbed body and ibis wings. The Brown Hackle is also much used.[2]

In shallow streams and rivers, trout of any of the varieties rarely exceed two or three pounds in weight. In deep-water lakes, such as the Rangeleys of Maine and the lakes of the Canadian wilderness, the lake trout has been taken of all weights up to and over ten pounds.

Lake Trout

The lake trout is a Northern fish. The inland lakes of Maine, New Hampshire, New York, eastern Canada, and the Great Lakes are the waters it inhabits. They grow very large, weighing sometimes fifteen or twenty pounds, or even more. It differs from other trout in having its tail decidedly forked instead of square. Its color is a dark gray, and the

[1] This, the *Salvelinus fontinalis*, is really a char. The brown trout and the rainbow trout of the West are now not unfamiliar in Eastern streams.

[2] The Parmachenee Belle and Professor are among those which should be added.

Digitized by Google

entire body and fins are covered with pale white or grayish spots. The lake trout is a deep-water fish and is taken only at some distance below the surface. It is omnivorous, eating everything, and cases are known where knives have been found in its stomach. Much skill and patience are required to catch the lake trout. Its flesh is either a light pink or yellow shade, and it is usually boiled.

Black Bass

There are two kinds of black bass, the small and the large mouth. Both are able to stand great extremes of temperature, and seem to thrive under varied conditions. The natural food of the black bass varies greatly and depends on the temperature of the water. They are very voracious, and devour all other fishes and even their own kind. Their natural food comprises crustaceans, minnows, frogs, worms, dobsons, tadpoles, crickets, and flies.

At times bass absolutely refuse to take any bait whatever, while at other times they bite greedily at almost anything. Small snakes, rats, and vegetables have been found in their stomachs.

With the exception of the ouananiche, the black bass is the gamest and hardest fighter of all fresh-water fish. No matter by what method it is caught, it makes a very hard struggle for life. The small-mouth bass can be compared to a bull-dog, as it will fight to the last without seeming to tire out. The large-mouth bass, on the other hand, fights hard for a short time with much strength, but is then taken to net with only a few additional rushes.

As cold weather approaches the bass seek deeper water, but always in bays that contain weeds and soft mud. They usually spawn in shallow water not far from the shores, and the small-mouth invariably spawns on stony or gravel bottom. In point of weight the two varieties average about the same in Northern waters. The largest small-mouth bass

Digitized by Google

of which there is any record weighed between ten and eleven pounds.

Another member of the bass family is the white bass. This species is found in the Great Lakes. Their color is silvery white, and they are peculiarly striped, five or six dark bands running lengthwise on the back and sides. Their average weight is from one to four pounds, but I have caught them in the waters of the Great Georgian Bay weighing six. During the winter season they become dormant and seek the deepest water possible. Unless it is very deep, they burrow into the mud and remain there during the winter, and in such circumstances they seem to be able to go without food for several months. Even when placed in aquariums, they remain motionless during the cold season and refuse food.

Muskallunge

The muskallunge—a name with many spellings—is very abundant in Canadian waters and the Great Lakes. The resemblance of the muskallunge, pike, and pickerel is very close in general appearance and contour, but in color, markings, size, and weight there is much difference. Some people call them all pickerel, but one has only to keep in mind a few points to distinguish them at sight.

In size and fighting qualities the muskallunge is the greatest of the three. The name is derived from that given it by the Indians of Canada—"maskinongè." A muskallunge of good size on the end of a line presents a hard problem. My friend captured one on a large trolling spoon, and we were obliged to run the launch up to shore in order that the fish might be landed on the beach. It weighed thirty-five pounds. Sometimes they reach seventy or eighty pounds. They are usually found in water from six to fifteen feet in depth, and especially where the bottom is covered with long weeds. In these the fish lies hidden, darting out to capture the large or small fish which form its food. It might well

Digitized by Google

be called a fresh-water shark, as its mouth is very large and armed with formidable sharp teeth, and the jaws are remarkably strong. The simplest and quickest way to distinguish between the fish is by the scales on the head, which in the muskallunge are found only on a very narrow strip on the top of the cheek and gill-covers. With the pike the entire cheek and the upper half only of the gill-covers have scales. On the pickerel the whole of both the cheek and gill-covers is entirely covered. The true pickerel rarely exceed five or six pounds in weight. It is to be assumed, then, that any pickerel over five pounds is a pike. Pike weighing from forty to fifty pounds have been taken in Canada, but the average runs about seven pounds, with occasional cases of twenty to twenty-five pounds. The pike is differently marked from the pickerel. It has a greenish-yellow back and sides, with numerous round yellow spots dotted over the entire body. The spots on a pickerel are oblong and run lengthwise along the sides, never vertically. The true pike is found not only in American waters, but generally throughout Europe. It is known in England by the same name as with us, in Germany as the *hecht*, in Sweden as the *gadda*, in Italy as the *luccio*, and in France as the *brochet*. The French name is also applied in Canada, especially in the Province of Quebec and at Georgian Bay. In European countries the muskallunge and pickerel [1] are never found, both being American. While here the pike is considered a good fish to eat, in Europe it is especially prized.

Yellow Perch

The yellow perch, sometimes known as the striped perch, is one of the best-known fresh-water fish in this country, being found in all the States east of the Alleghany Mountains. They also inhabit the Great Lakes. Perch are most

[1] The familiar pickerel of New England is a constant source of sport, either through trolling with a spoon or "skittering" with a long, stiff rod and a frog's leg or even a piece of pork.

Digitized by Google

strikingly marked. The body color is a bright yellow, with the back a decidedly greenish-bronze, and a yellowish-white belly. Six or eight black-colored bars, fully half an inch wide, extend from the back midway down the sides. The lower fins are bright red or orange, very similar to those of the brook trout, while the dorsal fin and tail are green. The back from the head to the dorsal fin is arched or humped. The perch is a small fish, and those taken are usually about eight to ten inches long, and average about three-quarters of a pound in weight. When skinned, perch make a most excellent fish for eating. This is due to the fact that they usually subsist on live food. They take the hook readily, and are easily caught.

The yellow perch is in no way related to the white perch, which is properly a salt-water fish, though often found in brackish waters. They are caught only in rivers that flow into the sea. They lurk about clay or muddy bottoms early in the season, but a little later are found near weeds or rocks and old stone and wooden piers. While not a large fish, their quality is good. In shape this perch is very similar to the black bass; its color is a silvery white, without any noteworthy markings. It is shorter and wider than the yellow perch, weighing practically the same—about three-quarters of a pound. Where it is found no similar fish will be taken. A most noted river for white perch is the Potomac, in which immense numbers are caught.

The Burbot

Before concluding this chapter it is well to give a little attention to the burbot, or fresh-water cod, which is found in the lakes and rivers of the Northern States and as far north as the Arctic Circle. They are often called "cusk," and in New England are known as the "eel pout," in New York as the "ling." They are a most voracious bottom fish, feeding principally on small fish and often on any dead fish or animal matter.

Digitized by Google

In appearance they are like the bullhead and eel. There is not much about them to attract an angler except their fighting qualities. They almost always bite at night, generally after dark. They are most frequently taken during the night on set lines placed quite deep. Occasionally they are caught when angling for other fish with minnows for bait. When they take the hook a great fight is on. They twist and squirm, running here and there, and will easily jump out of a boat if not killed at once. In the winter they are taken through the ice, and it is great sport trying to get them through the small fishing-hole. They make the best eating when dried and salted, as do the salt-water cod. In weight they range from two to four pounds, but sometimes reach forty pounds.

Another game fish not described by Mr. Burt is the "little salmon" of the North.

The Leaping Ouananiche

It has been said that the gamest fish on this continent is the ouananiche. The name means "little salmon." The fish is a specially developed land-locked salmon which was first identified at the head-waters of the Saguenay in Quebec. It is really the *Salmo Sebago*, which bears the name of the Maine lake where it was discovered a number of years ago. Since the first identification of the *Salmo Sebago* and recognition of its game qualities, it has become a favorite with sportsmen, and many lakes in the East have been stocked with the land-locked salmon. Early in the season the fish will take the fly. Later, it is usually a question of a minnow or trolling.

In the Lake St. John region of Canada the lake itself seems to occupy the relation of the sea to the *Salmo salar*, or sea-going salmon. Fish come down from the great rivers which empty into the lake, and are in the lake in the early spring. Then they ascend the rivers. The most familiar fishing-

Digitized by Google

By courtesy of the "Field and Stream" Magazine

THE LAST LEAP

A OUANANICHE BREAKING WATER

Digitized by Google

ground is immediately below the main chute of the Grande Discharge. Many good fish have been taken there, but the place is so readily accessible from the Island House that there are usually too many fishermen to admit of any large degree of success.

At the Hotel Roberval, at Lake St. John, arrangements are made for camping trips. The canoemen are Indians —half-breeds usually—who live at the Hudson Bay post a few miles away. One of the short trips is to the fifth falls of the Misstassini, which is a question of three or four days. Another is the Ashuamouchouan trip. The latter trip includes a journey up the river (the name of which signifies "where they watch the moose"), and then across several small lakes, including Lac à Brochette, which is filled with pike, and then across a larger lake, Lac à Jim, where ouananiche can be caught at certain seasons, and then down the rapids of the Wassiemski to the tenth falls of the Misstassini, returning down the river. Another long camping trip is up the Perebonca.

This fishing is particularly interesting, not only on account of the strength and endurance of the fish, but from its peculiarities. These rivers are very large. As the Indians say, "The water is strong." It really seems to have a higher specific gravity than ordinary river water. These rivers are full of rapids and sometimes large falls. As the water pours down at the foot of the falls and rapids great cakes of foam form, often a foot or more thick. In these white, viscid masses flies are caught, and the fish come up from below to feed on them. The fisherman, using most frequently a Jack Scott or Silver Doctor fly, casts into these cakes of foam. The fly gradually sinks down and is moved underneath the white surface. When the fish strikes it is almost like a quick, hard blow, and usually the next instant there is a flash like silver in the air, four or five feet above the surface. This is the beginning of a severe struggle, characterized by an amount of agility on the part of the fish which

Digitized by Google

is unequalled. Half of the time the fish seems to be in the air, and for the rest there is usually a succession of quick, fierce runs. Pound for pound, there is probably no fish on the continent which has the endurance and strength of the ouananiche. It is probable that the average size will not be more than two or three pounds, although they have been taken of a weight of from eight to ten pounds. There are times when they refuse the fly, and then phantom minnows or spoons are used, though this is less sportsmanlike.

Since the first vogue of the ouananiche began, the fish has been identified in many of the rivers farther to the east along the Labrador Plateau, but Labrador fishing, whether for ouananiche or salmon, is, of course, a quite elaborate matter.

It should be added that ouananiche-fishing, as is usually the case in pursuit of the salmon family, is uncertain. Furthermore, it is an expensive sport.

Digitized by Google

Part IV

ORGANIZED CAMPS

BY

EUGENE L. SWAN, M.D.

Digitized by Google

Digitized by Google

Chapter XIII

THE GROWTH OF ORGANIZED CAMPS

IT was perhaps in the early eighties that a general movement toward real outdoor life began to take distinct shape.

Among other features of the reaction against stereotyped hotel and "cottage" life and the continuance in summer of the winter's conventions was the birth of a most beneficent institution—the organized Boys' Camp.

These were camps conducted by earnest, thoughtful men who had the largeness of vision to see what it would mean to a boy's future as cities crowded and schools enlarged. They saw that the boys' breathing-space, living-space, his opportunities for the expenditure of normal activity were being slowly cut off. They realized that the initiative to build and delve and construct as any normal boy ought to do was being eliminated.

Unusual Opportunities for Boys' Camps

The physical opportunities in the eastern part of the United States were unusual, and New England saw the first camp.

Digitized by Google

The long line of lakes extending through the heart of New Hampshire, and the green hills of Vermont, afford splendid opportunities, while Maine, with its thousand-odd miles of winding coast line, its noble rivers, countless lakes, and fertile valleys, exerted a lure that few boys could resist who loved the open country. Canada, with its tributaries to the St. Lawrence and other rivers, and its wonderful lakes, is gaining more boys' camps. From a humble collection of tents and a shack or two, with a lumber-jack or native farmer-wife for cook, boys' camps became institutions with careful and well-constructed buildings, where comfort was found but simple living not lost. There were canoes and boats of the best and latest models, ice-houses with pure ice cut near at hand, kitchens where sanitary and dietetic rules were observed. The surrounding vegetation, trees, and waterways were all carefully considered. Boys' camps soon became an important business. They brought money into the rural districts, and it paid the farmer to bring his best vegetables, fruit and eggs and milk to them. He avoided a long haul to a village market, as a rule, and pay was prompt. Some camps had their own farms, which the caretaker cultivated.

The camping idea spread like wild-fire, and each season saw a half-dozen or more spring into life. Clubs, Y. M. C. A.'s, churches, schools, colleges, villages—all began building camps. Popular authors advertised camps, and a small army of professors and teachers entered upon the new calling.

Family Camps

The majority of these were for boys, but there were camps also for men and women—family camps, so-called—and

Digitized by Google

camps for girls. In the family camps a tired business or professional man could rent a log cabin for himself and family, and obtain meals at a central pavilion or dining-hall, and be as independently aloof or convivial as they desired. The father could have his own catch of fish served up to him at his own table, to which he sat down in his flannel shirt and rough boots. Fashion was dead and comfort King. But his vacation might be short or he could not get away to a camp, or had no desire for it, and his growing son must be sent somewhere. The wife and daughters might go to a hotel, but it was a poor place for the boy. But it was found that the organized boys' camp offered good food, no late hours, constant amusement and instruction in the out-of-door world, carefully selected companionship, and absence of danger.

Organized Camps

Take up almost any popular magazine in the spring or summer, and, turning back to its advertising section, there will be found a considerable space devoted to camps. Indeed, so great is the volume of camp advertising that several magazines have created departments which give their attention to various forms of out-of-door living.

By writing to the manager of such a department, information may be secured regarding organized camps or places for fishing and hunting. It is always desirable to obtain references and to look them up. There are poor camps as well as good. Investigate all phases.

Make sure of the character, business-like conduct, knowledge, and enthusiasm of the director as well as the quality

Digitized by Google

W. H. Langley

SUNDAY MORNING CHAPEL AT A BOYS' CAMP

Digitized by Google

of the camp. Speaking merely commercially, a payment of from $50 to $150 a month for a boy's camp life deserves an adequate return.

Origin

It seems that about twenty years ago a man named Balch started a camp for boys in New Hampshire as a private venture, but as far back as 1885 Sumner F. Dudley had invited six boys to camp for four weeks on Lake Orange, near Poughkeepsie. This camp flourished and grew so rapidly that Mr. Dudley turned its management and equipment over to the New York State Y. M. C. A., who conduct it to this day on Lake Champlain. An idea of the far-reaching benefits of this one man's efforts for growing boyhood may be gained when we learn that some twenty thousand boys have enjoyed the benefits of this simple manner of out-of-door living.

Objects of Boys' Camps

With the return of the summer months each season comes up the question, "What is wisest to do with our boys?"

Long months of idleness are certainly not good, and, in fact, no normal, healthy boy will remain long in doing nothing. He will be, from the very force of the nature within him, "finding out things," and the question at once arises, "What is it wisest for him to find out?" Does he receive the best form of physical development at home, with trips in an automobile, or to the beaches, with the summer theatres for amusement? Even in the best hotels is the life, the hours, the food, and examples the best thing for him?

Digitized by Google

There is much to amuse him, of course, but at the end of the summer how much is he benefited? How many lessons in self-control, and in manly, upright living has he learned? Has he been taught to swim and dive correctly, to paddle, row, fish, sail, tramp, make camp, cook out-of-doors? and has he come to know and love Nature because of intimate association?

Has he learned that the best preparation for the future is the present well seen to? Has he learned to speak straight, think quickly, act instantly, to practise some self-denial, and do each day some unselfish thing for the other fellow? Has he learned to look up at the stars in quiet peace and be glad just to be alive because the pure red blood is pounding in his veins.

But camping! What does it mean in a well-conducted boys' camp? It means a maximum of fun and the acquirement of robust health. It means the association of manly men and boys in a sane, healthy, normal living, and, as Dr. Oliver Wendell Holmes used to say, "the getting of more iron into the blood and phosphorus into bones, which is the salvation of this nation."

Digitized by Google

Chapter XIV

HOW TO CONDUCT A CAMP

CONDUCTING a successful, happy, healthy, and well-ordered camp for boys or girls in these modern times is as much of a profession as practising medicine or law.

Trained Directors

With the tremendous popularity of this form of out-of-door living there have come great and desirable changes. In the best camps experienced men have been brought to teach woodcraft, scouting, and campcraft or campercraft, whichever term one prefers. Men skilled in handicrafts have been brought to teach wood-carving, carpentry, brass and leather work. Boys are shown how to scientifically construct kites, model aeroplanes, and sail boats. There are camps and camps, and close inquiry is always necessary. In the best, well-known physical trainers are employed to coach the boys in swimming, running, paddling, and to give them setting-up drills.

Each boy is carefully weighed, measured, and charted. Fig. 1 shows a typical measurement chart. If the boy has any physical defects they are systematically and scientifically helped by corrective gymnastics.

Digitized by Google

If a boy has a musical taste, it is fostered and brought out by glee clubs and musical Saturday evenings.

His social atmosphere is made as pure and refined as clean-cut men can make it. The little courtesies of life at table and to women are carefully studied and helped. A very skilful, definitely organized system is created to place a premium on honor, unselfishness, truth, courage, self-reliance, and hardihood.

The organized camps for boys, and under this heading I include girls, fall in the general classification, like all the world, of good, bad, and indifferent.

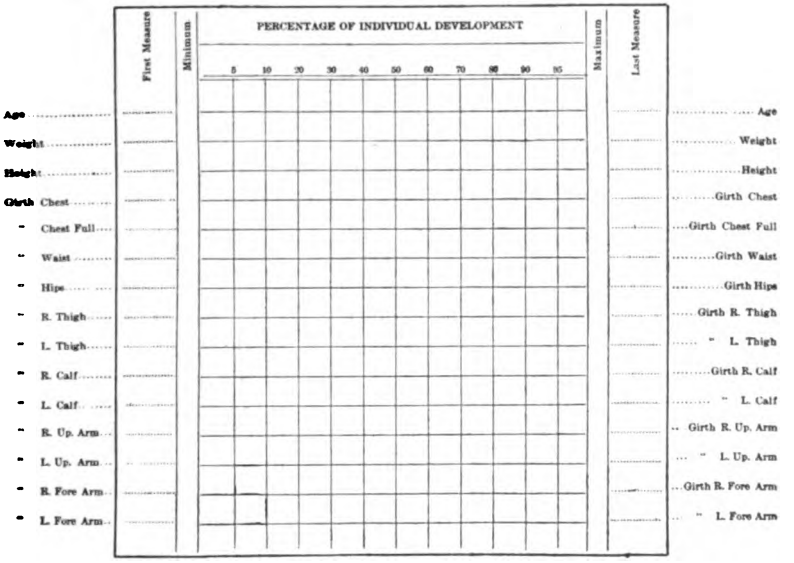
The Profession of Conducting a Boys' Camp

It is hoped that here suggestions may be offered which will prove of value to parents in selecting a camp, and will bring home to them an understanding of the methods of direction, location, routine, and amusements. This chapter will help a boy after his arrival in camp to "get into things" intelligently, or, if he has a camp of his own, or with friends, show him the "hidden meanings afield and afloat," and lastly, this chapter may afford some value and assistance to the many manly, sincere gentlemen who are taking up this work of launching and maintaining boys' camps.

This great enterprise is so comparatively recent that many grave mistakes have been made. Men have rushed to some out-of-the-way place with a crowd of boys, without any preconceived plans, expecting to have a successful camp simply because they were away from the city. They have kept a memory of pleasant trips alone, and have not realized the

Digitized by Google

CAMP MEASUREMENT CHART



A black line is drawn in to show physical development on entering camp; a red line to show results on leaving camp. The point of intersection with the perpendicular lines indicates the boy's standing in relation to boys of his own age. For instance, if the weight line intersects the perpendicular line marked 5, it means that only 5 per cent. of the boys are below him, and 95 per cent. surpass him in weight. The normal line is 50.

.....Camp Physician.

Fig. 1

Digitized by Google

serious responsibilities of a boys' camp. And there are others who have taken up this organized camp life for purely commercial reasons.

Nothing could be farther away from the ideas which go to make a successful and beneficial boys' camp.

The questions of buildings, of culinary arrangements, of the sources of supplies, drinking-water, and camp sanitation never seem to trouble some men until they arrive on the spot. I heard one man, who was thinking of starting a boys' camp, lightly pass over the question of a cook-stove with: "Oh, we shall not need one the first season; it's good practice cooking out-of-doors." Cooking on a flat stone for thirty-five or forty boys may be romantic, but it is not practical.

Several years ago I was requested to go and see some property that a gentleman was thinking of acquiring for a boys' camp. He told me that he had seen it three times and that it was ideal in every way, and that if I but once saw it there would be no doubt as to my report. His camp was to have about one hundred and sixty boys, mostly under sixteen years of age. The property was in the heart of the mountains, twenty-seven miles from any railroad, over almost impassable roads, and seven miles from a store, and that a small country affair. It was two hundred and fifty miles from a hospital and sixty-five miles from a physician, and in a country infested with all sorts of wild animals. Truly it was as he said, "Real Simple Life." While it is certainly true that the object of a boy's camping is to get away from the city and town life, it seems to me to be assuming a dire responsibility to take twenty-five

Digitized by Google

to one hundred boys far away from the routes leading to civilization.

Sanitation

The director must inform himself on the latest camp sanitation.

A good place to get such information is from a medical officer in the United States Army. When I was first to have the medical care of a boys' camp, numbering nearly two hundred men and boys, I went down to Governors Island in New York Harbor and spent an hour with the surgeon in charge, which has proved of value to me beyond description.

These officers are always open to any intelligent inquiry during their hours on duty, and I have found them most courteous and helpful.

Dietetics

The director should also inform himself on the simple principles of dietics and food values. Quantity is not always the only thing to consider in choosing and serving a boy's appetite.

The preparation of food is a science as well as an art, and the chemistry of it is as precise as the chemistry of the laboratory.

This is a subject which does not receive the attention that it deserves, and this is true of many homes as well as camps. To a very large extent, larger than the average person realizes, is the comfort and happiness of the home dependent on carefully selected and prepared food.

Digitized by Google

Boys' Growth

I cite growth to show the importance of food values. Besides the wear and tear of the day's work there is a proportionate amount of work in merely keeping alive—and this waste and wear and tear on the engine must be met as intelligently as possible. In a growing boy, however, there is still another factor to be considered, and that is that material must be supplied for his *growth* plus the food which supplies the actual loss of substance. It is this law of demand and supply which maintains that poise and balance between waste and repair which we call health.

Location of the Camp

In choosing a permanent site for a boys' camp the same care, thought, and foresight should be observed that one would put into the selection of a place to erect one's own home. A spot which is to be the playground, out-of-door school-room, and home for a group of men and boys for two months or more cannot be observed too carefully from all possible points of view. Ideal sites are very difficult to find. I have travelled thousands of miles examining and surveying land without finding one acceptable spot. Ask yourself if the district is one that is likely to be populated rapidly with cottages, camps, and hunting-lodges. Is it a popular hunting-ground, with the attendant dangers to boys of fire-arms in the hands of reckless individuals? Avoid, as you would the plague, any district where there is a land boom.

Digitized by Google

Physician

Can you secure the services of a physician, should you need one, in a reasonably short time? Have you thought what you would do in case a boy had to be operated upon for appendicitis or some kindred trouble? (I have had four operative cases in camp.) Could you get the invalid to a hospital in a reasonably short time—twenty-four hours? Ask the local physician how many cases of typhoid he has seen in the last three fall seasons. Look over the surrounding ten miles for low, swampy ground where *malarial* mosquitoes breed, see to the *general dip of the land*, the *direction of drainage*, the elevation of the lakes, mountains, and surrounding country as given by the United States Survey maps. These may be obtained from Washington, by writing to the Director of the United States Geological Survey, at five cents each. Give him a general idea of the country that you are interested in.

Surroundings

Find out the direction of the prevailing winds; this is very important in the erection of tents, as will be seen later. Look up the average rainfall, thunder-storms, accidents by lightning, general consistency of the soil, and see whether sand or clay predominates. Stumps and rocks upon which a diver may strike should be removed, or, if that is not possible, marked out with a white or red flag.

The beach, each season, should be very carefully and

Digitized by Google

systematically cleared of broken bottles, old tin cans, and general rubbish. This is very important, as guides and passing hunters and fishermen are never too careful when camping on an attractive bit of beach in the spring and fall when the regular camp is closed.

If a beach is rocky and unattractive it may be improved by picking out the worst stones, raking down carefully, and hauling a load or two of fine sand.

Soil

A sandy or light soil always makes by far the better camping-ground for a boys' camp. Remember that many hurrying feet are going to and fro during the coming weeks, and your grass will be worn away, and the soil underneath will make a great deal of difference in the comfort of all. The earth must be of a quality that permits the rapid filtering through of surface moisture. Pools of standing water are never good sanitation. A clay soil, like that along the west shore of Lake Champlain, after a heavy rain, will make walking all but impossible, even for horses. Three days' rain in a district of this sort, with thirty or forty boys carrying huge cakes of tenacious mud from tent to dining-hall, will reduce a camp cook to maniacal mutterings.

There is a camp in Michigan where the boys, looking for amusement one rainy day, built a chute down the side of a steep clay bank. It was dirty, but certainly slippery. The boys stripped and slid down to the river below. In Chapter XX it is explained how an effective chute can be built.

I paddled into a large boys' camp at the close of four

Digitized by Google

rainy days and found a group gleefully watching the campers assembling at the dining-tent. The approach was down a steep incline of clay, studded with outcropping rocks. Boy after boy got half-way down, then up went his feet and down he slipped on mother earth the rest of the distance, where he was rescued, somewhat the worse for wear, by his comrades. His only satisfaction was then to join the group and wait for another unfortunate.

The importance of the soil in regard to the cesspools and toilets, with relation to the source of drinking-water and the danger of polluting the bathing-place, should always be borne in mind.

A hole should be dug to ascertain the quality and variety of soil to the depth of six to ten feet. Frequently this will show a surface soil of sandy quality, which is, of course, an excellent filter, and immediately underneath a clay outcrop, or shelving ledge of rock, that acts as a perfect conductor of all filth to the well or stream from which the drinking water is obtained or the cove in which bathing is permitted.

While it is true that a clay top-soil will make a good tennis court, the disadvantages that it offers for the baseball field are enough to offset it, and a load or two of clay can usually be hauled by a farmer from a clay bank or brickyard.

Mosquitoes

The surrounding country should be looked over for malarious and swampy regions. As the most common transmitter of malaria is the mosquito, it may not be out of place here to say a word on that subject. The common house

Digitized by Google

mosquito is not the malarial one. It is not the city-bred but the country-bred insect that causes all the trouble. One or two simple points are sufficient to afford a ready distinction by almost any individual.

(1) The palpi, or feelers, of the *Culex*, or non-malarial mosquito, are very short, and only seen on close observation, while on the *Anopheles*, or malarial mosquito, they are long, giving the insect the appearance of having three proboscises.

(2) The wings of the *Culex* are finely lined, of the *Anopheles* plainly mottled.

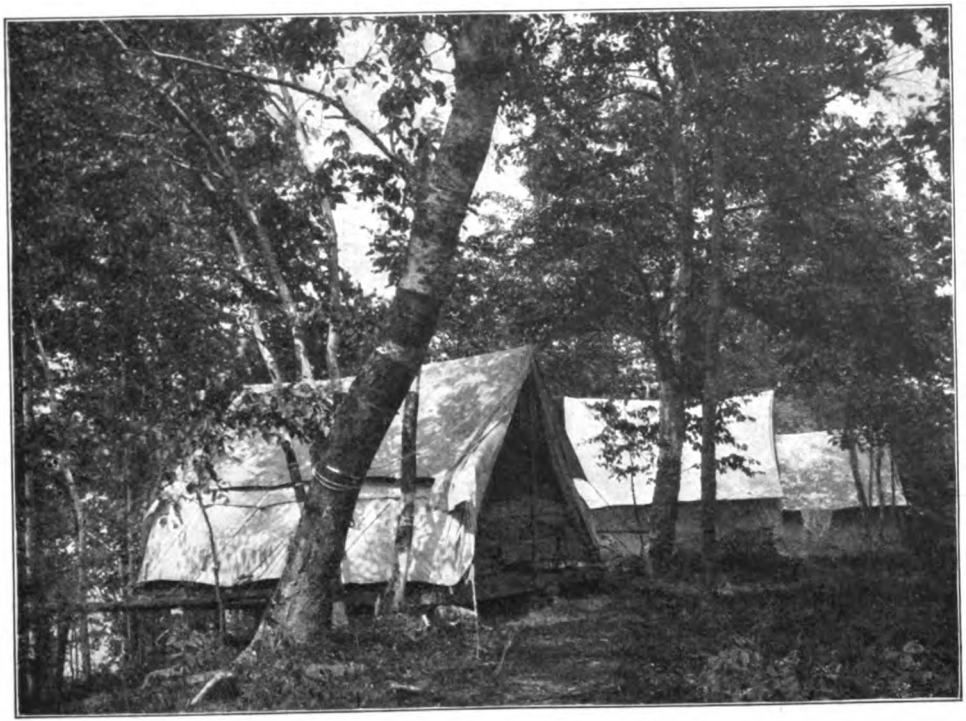
(3) The *Culex* when it is sitting on the wall or ceiling holds its position with a pair of legs curled up above its back, while its body lies nearly parallel to the wall. The *Anopheles* when sitting on the wall or ceiling holds its position with a pair of legs against the wall or hanging down. The body, instead of lying against the wall or ceiling, protrudes at an angle of forty-five degrees.

(4) The *Culex* when lighting settles horizontally, while the *Anopheles* alights, as it were, head first.

Privacy

As a general proposition, it may be laid down as unwise to have a boys' camp near a popular summer resort or nearer than several miles at least to a large or fashionable hotel. A stream of visitors, constantly passing launches, and parties detract from the regular routine, and upset discipline. Most camps have regular visiting days. I called at a large camp the day after a boy had been requested

Digitized by Google



A GLIMPSE OF A BOYS' SUMMER CAMP

(On sloping ground providing for free drainage and under birch-trees, which are believed to be less likely to be struck by lightning than others)

Digitized by Google

to paint a sign referring to visiting days. The following legend greeted us at the fence:

CAMP BLANK

PRIVATE PROPERTY

No Trespassing Except on Thursday, 2–6 P.M.

Tent-placing

In Chapter V, which deals with individual as distinguished from organized camps, some excellent explanations have been given of tent-making and of pitching tents. While many things which are said there are applicable to the larger or organized camps, the subject is of so much importance, and the conditions so much more complicated, that it seems advisable to consider this and other branches of camp life in greater detail with a view to the requirements of a considerable body of campers.

In erecting a tent either near one's home or in the wild woods two points should always be observed. First, it should never be placed over a depressed place in the ground or hollow and never under thick foliage. Tents will soon become soggy and damp in shady spots, and the ground under them will retain dampness and moisture much longer than under a building. They should always be erected where the sunshine may enter during the morning or afternoon hours.

The ideal place to erect a tent is where the midday rays of the sun are shaded, but where the early and last rays have

Digitized by Google

free scope. Secondly, remembering the number of fallen trees or broken branches that one sees after a violent windstorm, a tent should never be placed under or within falling distance of a dead or rotten tree. If the tree is living but has dead branches extending over the tent, cut them off, using a saw if possible, and doing a neat job.

Permanent camps should never be built on low ground, in a narrow valley or ravine, however picturesque the scenery. A ridge or sloping hillside with good drainage in at least one direction is best. Most promontories jutting out into lakes or rivers make splendid spots for camping. There is the advantage of the sweep of air through the trees and grass on two sides, driving away flies, mosquitoes, and the many little pests of the field and forest. It is always cool at night with so much water about, and there is usually an attractive bit of landscape. Islands, for the reasons already stated above, are nearly always excellent camping-grounds.

Sandy beaches in sheltered coves are always desirable for bathing, and care should be taken to indicate a safe place, gradually deepening, for non-swimmers.

As a rule, tents should never face north, because of the cold winds. In the Middle Atlantic States a western or southern frontage is best both for the pleasure of watching the sunsets and for the milder winds.

There are certain trees that are less attractive to lightning and are said to be struck less frequently, which is a point to bear in mind in the erection of tents. They are those rich in juices, or, as they are sometimes known, "fat bearing," such as the birch, beech, and cottonwoods. The non-fat bearing are the oak, elm, and maple.

Digitized by Google

The extra piece of canvas known as a "fly" will be found a great advantage to the comfort of the dwellers. It sheds water, keeping the tent dry, permits a circulation of air beneath it and the tent surface, which is a decided advantage in exceedingly hot weather, and softens the light that so frequently prevents new campers from sleeping after sunrise or when the moon is full (see Fig. 7, page 55).

Tent Material

Tents are made of canvas (the best is 8 or 10-oz. duck), khaki, and balloon silk. I have heard boys complain that khaki tents are too dark and gloomy on dull days, and others that canvas is too light on bright days, so that one must make one's own choice. The balloon-silk tents are very light, and one of moderate size can be packed in a dress-suit case. The disadvantages are that they crackle in a breeze like a crumpled newspaper, they light up very brilliantly, and they are about twice as expensive as the other two. The brilliancy of the light may be tempered by a khaki fly.

The khaki tents are, undoubtedly, more durable but slightly more expensive than canvas. As was said in Chapter V, they may be purchased at a low price from second-hand stores that sell supplies purchased from the Government. Bannerman's, on Broadway, New York, and George C. Peck, of Newburg, New York, occur to me as examples. A 10 x 12 canvas tent costs about twenty to thirty dollars; a khaki of the same size costs about thirty to thirty-eight dollars, while a silk tent of the same size would cost about

Digitized by Google

sixty-five dollars new. The Government does not use the last, so that it is difficult to purchase one second hand.

To Erect a Tent

To erect a wall tent (see illustrations in Chapter V) carefully unfold it. Take the tent by its ridge, or peak of the roof, and draw it out flat on the ground until it is perfectly smooth. See that all the guy and foot ropes are clear and untangled, having no knots, or they may embarrass you later. If the flaps are tied together, untie them, so that when the tent is up you may enter from either end freely. Now take the fly and place it over the top of the tent (still on the ground) in such a manner that both eyelets or peg-holes will be over each other. Have your assistant hold the top of the peak up while you slip the under side of the fly down under the tent, as you would slip a cloth school-bag over a book. If you are alone put a rock of some weight over the upper edge of tent.

Tent Poles

The poles are three in number, the long one for the ridge pole, supported by a brace at each end, to which it is attached by spike or ball, or even a large nail. (See illustrations, pages 51, 55, 63.) The horizontal, or ridge pole, should always rest *on top* of the uprights, *not* between them. It will not bear the strain otherwise.

Poles are usually made of spruce or pine, and in a fixed camp are nicely rounded with the ends bound in zinc or

Digitized by Google

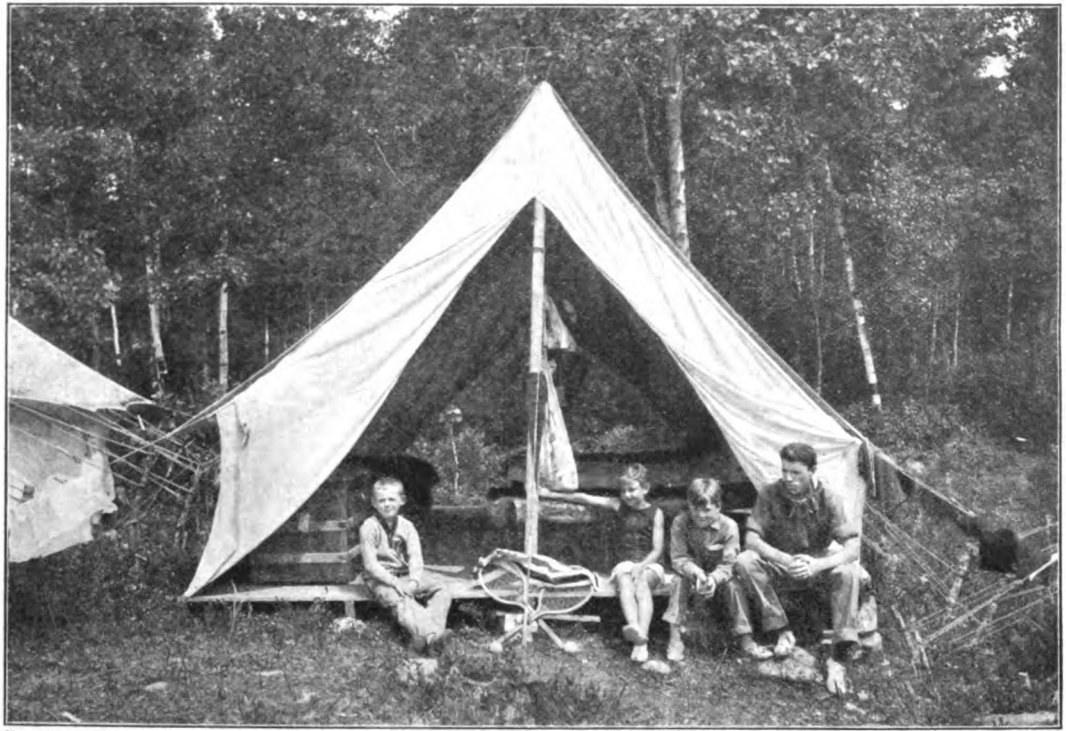
sheet-iron to keep them from splitting. Cedar poles may be cut with a butt some two inches in diameter; the bark, if kept on, gives them a rustic appearance. (See also page 53.)

Roll up the top layer of fly and tent until you can readily put the ridge pole in position, slip your uprights into place, fasten them to horizontal ridge pole and fold your rolled-up tent fly down over them. Have your stakes ready—four long, strong, sharp ones—at least three feet long. Iron ones are best for the four corners. Now seize the uprights and raise your house. Be sure that your uprights are *exactly* perpendicular, and, while you hold them, have your assistant stake out the four corners. Do not attempt to do anything to the sides until the corners are secure. The tent will now stand alone and the staking out of the guy ropes along the side will be begun. Two points here: be careful not to draw the tent too much to one side by staking one side tighter, and have guy ropes in a direct line with the arch of the roof. Now, and not till now, stake out the fly; begin at each corner just as the tent is started. Be very sure that it is free from the tent roof by at least four inches. The fly should not be permitted to sag anywhere. The edge of the tent wall may be attached to the floor by slipping the loops over screw hooks or nails driven under the floor. *Never* nail a tent down to the flooring. (Consult Chapter V in following these details.)

Floors

Tents should always have some sort of flooring. Never, if it can be avoided, choose sand to sleep on. It feels soft

Digitized by Google



By courtesy of *Recreation Magazine*

A TENT FAMILY. BOYS AND COUNSELLOR

Digitized by Google

for about an hour and after that it packs down to fit every contour of the body, until no position is comfortable.

Of course in erecting a camp for a protracted stay—a house camp—a board floor is the thing. (See illustrations, page 55, Fig. 11, and page 59, Figs. 12, 13.) This may be constructed of any boards an inch thick. The slight extra expense involved in using boards planed on one side will be more than compensated for by the lack of splinters picked up by the bare feet in the night. It is a mistake to economize lumber by placing boards so as to have a space between them. A considerable portion of time will be spent crawling or feeling under the tent floor for lost articles.

Elevate the flooring on stringers, 2 x 4, or logs at least 4 inches thick. This promotes a free circulation of air, keeps the ground dry, and permits exploration for skunks and other pests that might set up a home. If the tent floor has knotholes plug them up or place the beds, trunks, or camp furniture over them. They are ever ready to receive fountain-pens, penknives, and various small articles.

On the trail on trips away from the main camp tent floors may be made of canvas or skin rugs, carried for that purpose, or boughs.

Wigwam or Tepee in the Woods

Although the building of a tepee, which is the proper Indian term, or wigwam, as we often call it, has been described for home-staying boys in Chapter II, I add an explanation for boys in the woods.

Drive a peg in the centre of a space that has been pre-

Digitized by Google

viously cleared and, tying a peg to a rope, attach the latter to the centre peg for use just as a compass is used in drawing. Now describe a circle. The outer boundary of this will mark the limits of the tepee wall. Get about ten or a dozen slim poles, alder will do, and tie these all together at their tops, and spread their butts out around the circle at equal distances apart. Place the pole cover or tent proper over these uprights, and lace or pin up. In an Indian tepee a smoke-hole is made at the top by flaps which are opened and closed by two long poles. The Indians build a fire in the middle of this tepee in a hole dug about 6 inches or 1 foot deep, which is seldom permitted to blaze, but is kept down to a smudge. (See illustrations on pages 13, 15, 16.)

Sibley Tents

Sibley tents are not used as much as the other varieties, but have some merits. They are round and taper up to a point like a cone, and because of their steep pitch shed water very well. They are set up with one pole in the centre. This pole may be in sections, like a fishing-rod, if desired. In a treeless region these tents have the advantage of not needing any other support. The department stores carry Sibley tents in their sporting-goods departments. They can also be purchased at Bannerman's, on Broadway, or at the tent and sail manufacturers along South Street, New York, or Atlantic Avenue, in Boston.

The method given by Mr. Horace Kephart in his excellent work, *The Book of Camping and Woodcraft*, is as good as any, and I take it direct from him:

Digitized by Google

"For a Sibley tent make a loop in one end of its leech ropes, and another at such a distance from this as will mark the radius of the tent when set up taut; also another loop farther out, marking the radius of the guys. If the tent has a wall, drive a peg in the centre of the space that it has to cover, loop the end of the line over it and, with the other peg used alternately in the other loops, draw two concentric circles on the ground. Drive the pegs and guy stakes in these circles, respectively, loop on the gromet lines to the former, raise the tent, and then make them all taut."

Digitized by Google

Chapter XV

THE BILL OF FARE

A CAMPER is entitled to a good appetite, but he should be able to prepare his food himself. In a previous chapter we have been introduced to the comparatively simple requirements of the domestic camper. In this chapter we shall consider the requirements of long trips, and also of camps containing a number of boys.

The amount, quality, and variety of food is one of the young camper's greatest problems. The "grub list" will depend, of course, on the nature of the trip. The method of transportation determines at once, to a very great extent, what can be taken. The boy on a walking trip cannot be loaded down with a lot of canned goods, whereas on a canoe trip canned goods are excellent ballast. Sacks of flour and cornmeal, when one has a pony to carry them, are very necessary features of the food supply. There are several articles that make fine additions to an outfit. Dried beef, corned beef, canned sardines (the French variety), and lemons are always welcome. There is a variety of beef capsules called "Sterzo" that come in watertight tin boxes which make an excellent beef tea instantly by adding boiling water. Soups are always welcome, on cold, raw days particularly. They can be made of almost anything.

Digitized by Google

On short trips where possibly two school holidays come in succession, it is an excellent plan to prepare at home as much as possible for the meals. Sandwiches always make a valuable addition to the larder. Dough may be prepared beforehand under competent direction and carried in cans and baked on a hot, flat rock or a sheet of tin beside the glowing coals. Coffee may be ground at home and sewed up in a small sack which can be thrown into water that is *boiling*.

One of the most important things for a young camper in his outfitting is to remember the importance of careful preparation in advance. As far as possible, always plan the meals out before leaving home. It is not at all unusual for boys to hurriedly throw all their equipment together, pellmell, with the idea of "fixing up things" after they arrive. This shows the novice. A glance at the contents of a canoe, the arrangement of a camp, or the construction of a camp-fire will at once mark an old from a new camper. In the former will be found orderliness and neatness; the cooking utensils will be carefully grouped together; the food supply will be raised above the sand or moss on a rock, box, or improvised table; the canoes turned over; and the bedding carefully elevated in some secure place. (Refer to Fig. 11, page 73.)

Food for Canoe Trips

Here the cooking utensils should be carefully placed in one box, and the food supply, knives, forks, spoons, cups, and plates in tin boxes with watertight covers. These

Digitized by Google

may be purchased in any department store in the house-furnishing department. Upon landing for a meal, the boxes should be at once taken from the canoe, the cooking utensils arranged as needed, while the knives, forks, spoons, and plates may be taken out of the tin box as each one comes for his rations. This avoids their getting lost and keeps them clean until needed. These things have an astonishing way of slipping down into sand or becoming buried in moss or pine needles.

There are various makes of canned goods which are excellent food. Canned tomatoes, corn, fruits, beans, soup,

AT DINNER IN A BOYS' ORGANIZED CAMP

meats, and sardines are easy to prepare and make excellent ballast in the canoe. Nearly everything edible, in general, has at some time or another been canned, and a great many of these things are abominations. Condensed coffee, condensed eggs, condensed beef, and most beef extracts are very

Digitized by Google

poor food. Condensed milk is a good thing, while condensed cream (if one can stand its peculiar taste) will make a valuable addition to a meal.

However, canned goods have met with a great deal of undeserved criticism. True, there are frequently cheap varieties carelessly made, where the can, soldered in a clumsy manner, will permit decomposition of the food. But those purchased from any reliable house and thoroughly endorsed are without danger. One important point must be remembered: That is, the food *must* be poured from the cans at once when opened. The food must not be permitted to remain in the cans, as it readily decomposes and dissolves the solder. This renders the food poisonous.

Any boy, with a little care, can make biscuits or flapjacks. The self-raising or Hecker's prepared flour, or the quality that is known as "Aunt Jemima's" self-raising flour, can be converted into flapjacks, with the addition of a little water and salt, in about fifteen minutes. The directions for making are printed on the package, and it will pay to follow them, as they have been carefully worked out by the manufacturers. Hardtack is harder and it will therefore keep better in damp weather than pilot bread.

HOT BISCUITS are not difficult to make, and give the proud camper a feeling of wonderful independence of the women folks at home. They are best baked in a tin reflector or an oven dug out of a bank, as previously described. If baked in a Dutch oven be sure that the fire has a large bed of wood coals of the best. Grease the pan with anything—bacon rind or a piece of bacon is good. Here is a recipe for one dozen biscuits:

Digitized by Google

1½ pints of flour
1½ heaping teaspoonfuls of baking powder
½ teaspoonful of salt
1 tablespoonful of cold grease
½ pint of cold water or milk

Lard, butter, or fried-out fat can be used.

Beverages

COFFEE as a steady diet for boys is not advisable. On cold mornings or after an exhaustive day of paddling or sailing it is very welcome, and may be made in the following manner:

Measure out the number of cups desired by pouring the cold water into the coffee-pot and add an extra cup for possible evaporation. Boil this water and, when actively boiling and not before, add one tablespoonful of the ground berry for each cupful and one for the pot. Boil about five minutes. Stuff in a wad of paper or leaves in the nose of the coffee-pot. This will prevent the coffee from boiling over and shorten the time necessary for boiling it.

COCOA.—Phillips's Digestible Cocoa in powder is probably one of the best, but there are several good preparations. Place your cups in a row on your improvised table or log and put a heaping teaspoonful of cocoa in each cup; then add about a tablespoonful of water and carefully make a paste; then add boiling water, stirring up the paste; sweeten to the taste; add condensed milk if desired.

OATMEAL WATER makes a very nutritious, although not particularly palatable, drink. Many trainers use it for

Digitized by Google

athletes. It is made by boiling out meal or soaking it in cold water for several hours and then straining off through a clean cloth. Add salt.

TEA, as has been previously said, can be made by sewing or pinning a heaping teaspoonful of tea in a piece of cheese-cloth or clean rag and dropping into a pot of boiling water. This is simple and reliable—an imitation of the feminine tea-ball at home.

Canned corn, tomatoes, beef, or beans, with the addition of boiling water and a little condensed milk thickened with flour, makes good soup. All these may be put together into a pot and warmed up. If any old biscuits are about put them in for dumplings. Stir to prevent burning on the bottom.

Pointers

In cooking it is always wise to follow printed directions on cans and boxes placed there by the manufacturers. They have worked the matter out carefully.

Wash dishes at once after finishing a meal. It is easier and will soon be over. Use sand or leaves to remove grease. Paper will assist also. Firewood ashes make excellent scouring material.

Have a flat rock, box, or hewed log to put knives, pots, pans, and kettles on.

An old wives' tale is that if soot burns around the rocks or in the fireplace it will rain in twenty-four hours.

Be sure to put things back in their places or they will be lost. Do not leave anything on the ground.

An excellent range may be built of clay and stones, with

Digitized by Google

covers and holes like any stove. It should be built under a bank, with a chimney at least three feet high. The chimney may be built of stones chinked in with clay, or the staves of an old pork barrel broken up and placed around will do. Of course, a piece of stove-pipe is a luxury. Camp fireplaces have been discussed in detail in Chapter VII.

The simplest way of preparing canned foods such as beans and meats is to place the cans in boiling water for ten minutes. On opening them the contents will be ready to serve.

After finishing cooking and before sitting down to a meal do not forget to put on the dish-water.

Soups [1]

Here are some good soups that can be prepared readily:

VEGETABLE SOUP.—Onions, potatoes, carrots, turnips, beets, parsnips, cabbage, cauliflower, squash, etc., should be picked over, washed, pared, and cut into small pieces from a quarter to a half-inch thick, put into a pan of cold water, rinsed and drained. Tomatoes should be scalded, peeled, and sliced. Cooked meat or bones may be added. Let this cook slowly for a reasonable time. Just before this is done season with salt and pepper. If made in an iron pot it should be transferred as soon as done to an earthen or tin vessel. While cooking, the soup should be stirred occasionally to prevent the vegetables from sticking to the bottom of the pot and skimmed frequently. When done take out the vegetables, mash and return them to the soup, boil one minute, season and serve. Canned corn or tomatoes may be used in this soup the same as fresh vegetables.

BEAN SOUP.—Pick over two quarts of beans, wash, and soak them overnight in cold water. Scrape clean one pound of salt pork, and

[1] Many of these receipts are from *Canoe and Camp Cookery*, by "Seneca," and they are used through the courtesy of the Forest and Stream Publishing Company.

Digitized by Google

cut into thin slices. Drain the beans, put them into six quarts of cold water, with one tablespoonful of soda, and let them boil gently for half an hour, skimming constantly. Then drain off all the water and put in the same amount of fresh boiling water. Boil slowly for an hour and a half, stirring frequently; then put in the pork. When the beans have become tender enough to crack, take out the pork and mash the beans into a paste with a wooden masher or the bottom of a large bottle. Then put all back and boil slowly an hour longer. If no soda is used, longer boiling will be necessary. Bean soup will burn if not constantly stirred. Not much salt, but plenty of pepper, should be used for seasoning.

FRIED BREAD FOR SOUPS.—Cut stale bread into square pieces, and fry in boiling fat for an instant. Take care it does not burn, removing it as soon as brown.

PEA SOUP.—Treat the peas exactly the same as the beans in the above recipe, except as to the preliminary boiling in water with soda. Make the same way as bean soup. Pea soup cools and thickens rapidly; therefore if squares of fried bread are thrown upon the surface before serving, it should be done quickly and while the bread is hot. Use more salt than with the bean soup for seasoning, and boil gently or it will surely burn.

FISH SOUP.—Cut up large fish, after it has been cooled from a previous cooking, into small pieces, and stew it with a piece of salt pork for two hours.

TOMATO SOUP.—Mix one tablespoonful of flour and a piece of butter the size of an egg into a smooth paste, and if you have onions, chop up fine one medium-sized one. Prepare about one pound of tomatoes by scalding, peeling, and slicing them (the same amount of canned tomatoes may be used), and put all the ingredients with a pinch of salt into one pint of cold water. Boil gently for an hour, stirring frequently enough to dissolve the tomatoes and prevent burning, then stir in one cup of boiled milk, and let it come again to a boil, constantly stirring. Season and serve. The soup will be good if the milk is omitted.

FISH CHOWDER.—Clean the fish and cut up all except the heads and tails into small pieces, leaving out as many bones as possible. Cover the bottom of the pot with slices of fat salt pork, over that a layer of sliced raw potatoes, then a layer of chopped onions, then a layer of fish, on the fish a layer of crackers first made tender by soaking in water or milk. Repeat the layers except pork until the pot is

Digitized by Google

nearly full. Every layer must be seasoned with pepper and salt. Put in enough cold water to moisten the whole mass well, cover the pot closely, set over a gentle fire and let it simmer an hour or so. Cook it till it is rather thick, then stir it gently, and it is ready to serve. Tomatoes may be added as a layer after the onions. A cupful of milk may be added—condensed milk will do—and a large piece of butter. Just before taking off, add more milk. This makes a rich and nutritious fish chowder.

ORTHODOX CLAM CHOWDER.—The first thing necessary is an outdoor oven made with flat stones. Start a rousing fire in this and let it burn until every stone is hot all the way through. Then rake out the coals beneath, even to the faintest cinder, so that there will be no smoky taste to the chowder. Then put a couple of stout boughs across the open top of the oven, and cover them with fresh seaweed an inch or two thick. Spread the shelled clams on the seaweed, over them a layer of onions, then a layer of sweet or Irish potatoes (or both), then green corn, then the fish (cleaned and salted and wrapped in a cloth, and either a bluefish or a cod, if extra-orthodox), then a lobster, either alive or boiled. Now cover the whole arrangement with a large cloth, and pile on seaweed till no steam escapes. When it has cooked half an hour or so let the company attack it *en masse*, uncovering it gradually as it is eaten, so as to retain the heat in it as long as possible. The stones should be extremely and thoroughly heated, or the chowder will be a failure, and the cinders should be cleaned out, the chowder put on, and the whole covered with great haste, so as not to give the stones a chance to cool.

Fish

FRIED FISH.—Small fish may be fried whole, but large ones should be cut up. Have enough pork fat or lard bubbling hot in the frying-pan to well cover the fish. Roll the fish in dry cornmeal or flour, or, what is better, dip it into well-beaten egg and then into bread or cracker crumbs, and fry both sides to a clear golden brown. Sprinkle lightly with pepper and salt just as it is turning brown.

SKEWERED TROUT.—Sharpen a small, straight stick, and on it skewer small trout and thin slices of bacon or pork in alternation. Hold over a bed of hot coals and keep constantly turning, so that

Digitized by Google

the juices will not be lost in the fire. A very few minutes will suffice to cook the trout.

BOILED FISH.—Tie or pin the fish (which should not weigh less than three pounds) in a clean cloth. If the pot is too small for the fish, skewer the tail into the mouth. Put it into enough boiling water to cover it about an inch, and simmer steadily until done. Some fish boil quicker than others, as a general rule those of white flesh requiring less time than those of a darker tinge. If a couple of tablespoonfuls of salt and four ditto of vinegar are put into the water the fish will cook sooner. About twenty-five minutes is necessary for a three-pound fish, and over that six minutes extra to every pound. An underdone fish is not fit to eat, and one boiled too long is insipid. When the meat separates easily from the backbone it is cooked just right. Take it up, remove the cloth carefully, and pour over it a hot sauce.

PLAIN BAKED FISH.—Dig a hole in the ground eighteen inches deep and large enough to contain the fish; build a fire in it and let it burn to coals. Remove the coals, leaving the hot ashes in the bottom, on which place a thick layer of green grass. Put the fish on the grass, cover with another layer of grass; then rake back the coals and loose earth, and build a small fire on top. In an hour the baking will be complete, the skin will peel off and leave the flesh clean. A fish prepared this way need not be scalded, but only disembowelled, as the scales will come off with the skin after it is cooked.

Meat, Ham and Eggs, etc.

In selecting salt pork, especially from a country store, be careful that it is smooth and dry. Damp, clammy pork may cause ptomaine poisoning.

FRIED SALT PORK (OR BACON).—Slice thin, put in frying-pan with cold water enough to cover, let it come to a boil and boil two or three minutes; then turn off the water and fry brown on both sides; or soak one hour in cold water, then roll in bread or cracker crumbs, and fry with a little butter or lard in the pan.

BROILED SALT PORK.—Slice thin and broil on the end of a green switch held over the coals, using extra care that the smoke and flame from the drippings do not reach the pork.

HAM AND EGGS.—Fry the ham first, the same as pork or bacon,

Digitized by Google

and fry the eggs in the fat left in the pan. Break each egg separately into a cup, and thence transfer it to the pan, by which means the yolks are kept intact and bad eggs are discovered before it is too late. While the eggs are frying dip up some of the fat with a spoon and pour it over the tops of the eggs.

BROILING IN A FRYING-PAN.—Broiling can be done as well with a frying-pan as with a gridiron, and all the juices are preserved. Heat the empty pan very hot first, then put in the meat to be broiled, cover over with a tin plate, and turn the meat often in the pan.

A broiler is conveniently carried and is the best method of cooking steak. Do not permit the broiler to be over the fire, but at one side.

FROGS.—Use only the hind legs of *small* frogs, but both the fore and hind legs of *large* ones. They are best broiled, but may be fried in butter.

Vegetables

BOILED IRISH POTATOES.—Small or medium-sized potatoes are preferable to large ones. Choose those with small eyes, as those with large eyes are generally about to sprout and are of poor quality. Do not pare unless they are very old, and in the latter case put them in cold water and allow it to boil. If they are of unequal size cut the large ones, so that they will boil evenly; wash, cut out bad places and eyes, and slice off a piece of skin at each pointed end. Put, unless old, into enough boiling salted water to cover them, and simmer steadily till a sliver will easily pierce the largest. Strain when done, and set the pot near the fire, shaking them occasionally to dry them.

MASHED POTATOES.—After boiling, peel and mash thoroughly with the bottom of a large bottle, working in pepper, salt, butter, and sufficient hot milk or water to make them into the consistency of soft dough. If mashed in an iron pot they will be discolored, but will taste just as good as if mashed in tin or earthenware.

ROASTED POTATOES.—Wash and wipe them dry, and cut off the ends. Bury them in the ashes till a sliver will easily pierce them. Do not make the common mistake of putting them among the live coals of the fire, or they will be burned, not cooked through.

FRIED COOKED POTATOES.—Peel and slice cold cooked potatoes, and put them into enough "screeching hot" lard or pork fat to cover the bottom of the pan. Stir frequently and fry slowly, seasoning with pepper and salt.

Digitized by Google

FRIED RAW POTATOES.—Wash, peel, and slice very thin. Put few at a time into enough boiling fat to float the slices. If too many potatoes are put in at one time they will chill the fat and will not fry evenly. Turn and fry a light brown on both sides. When done, remove with a fork, leaving as much of the grease as possible in the frying-pan, and then shake them up in a covered dish to eliminate the grease still further.

SWEET POTATOES are cooked the same as Irish potatoes, but require a longer time.

SUCCOTASH.—Cut the corn from the cobs and shell the beans. If string beans are used, string and cut into half-inch pieces. The right proportion for succotash is two-thirds corn to one-third beans. Put them into enough boiling salt water to cover them. Stew gently till tender, stirring frequently; then drain, add a cupful of milk and a piece of butter the size of an egg, and stir till it boils up once. Season to taste.

GREENS.—When in camp or on a cruise a most delicious dish can be made of boiled greens, of which a large variety of weeds and plants furnishes the material. Dandelion leaves, nettles, milkweed, spinach, young beat tops, turnip tops, mustard, narrow dock, mountain cowslip, kale, cabbage, poke, sprouts, and other "weeds" are good. They should be picked over carefully, washed in three or four waters, and soaked in cold water half an hour; then drain and put in enough boiling salt water to cover them. Press them down till the pot is full, as they "boil away" and lose more than half in substance. Cover, and boil steadily till tender. Then drain and press out the water. Season to taste with butter, pepper, and salt. Greens are good boiled with salt pork, bacon, corned beef, or ham. Put them in the pot in time to be done with the meat.

STEWED TOMATOES.—Peel by pouring over them boiling water, when the skin will easily come off. Cut up, discarding unripe and hard parts. Put into a pot, seasoning with butter, pepper, salt, and, if very acid, two tablespoonfuls of sugar. Cover, and stew gently.

BOILED MACARONI may be readily cooked in a yacht's galley if it be provided with a regular yacht stove, but it is rather difficult on a camp-fire.

Wipe the macaroni carefully, break into lengths, put into a pot of boiling salt water for about twenty minutes or until tender. This

Digitized by Google

food also comes in cans and is fairly palatable. A little grated cheese is a valuable addition.

MUSHROOMS.—Edible mushrooms are found in clear, open, sunny fields and elevated ground where the air is pure and fresh; poisonous ones are found in woods, low, damp ground, in shady places, and upon putrefying substances. The edible kind are most plentiful in August and September, and spring up after low-lying fogs, soaking dews, or heavy rains. They first appear very small and of a round form, on a little stalk, the upper part and stalk being then white. They grow very fast, and, as the size increases, the under part gradually opens and shows a fringy fur (called "gills") of a delicate salmon color. After the mushroom is a day old this salmon color changes to a russet or dark brown. The gills of the poisonous variety are red, green, blue, yellow, or orange red, and sometimes white, but they never have the delicate salmon color of the edible mushroom. The latter have an agreeable odor, and the poisonous have sometimes a similar odor, but generally smell fetid. The flesh of the edible kind is compact and brittle; that of the poisonous generally soft and watery. The skin of the former is easily peeled from the edges, and the seeds or sprouts are for the most part roundish or oval; the skin of the latter is not easy to peel, and the seeds are mostly angular. Some poisonous ones assume a bluish tint on being bruised, and others exude an acrid, milky juice. The mushroom should have all of the above-named characteristics of the edible variety before it is put into the pot, and it is safest not to select mushrooms gathered by somebody else, as they change color after being picked several hours, and the two kinds are then difficult to distinguish. Finally, if a white peeled onion cooked with them turns black, or if a silver spoon with which they are stirred while cooking turns black, don't eat them; and if you don't know a salmon color from a yellow, let somebody gather them who does.

BOILED GREEN CORN.—The sweetness of corn is better preserved in the boiling if the outer layer of husks only is stripped off. Turn back the inner husks and strip off the silk, then replace the inner husks and tie the ends. Put the corn into enough boiling salt water to cover it. Boil, if young, twenty-five minutes; if old, nearly or quite twice as long. After half an hour's boiling an ear had best be removed occasionally and the kernels prodded with a sliver to see if they have cooked tender. Overboiling spoils corn. Drain off the water as soon as the corn is done.

Digitized by Google

Mush—Hoe-cakes—Slapjacks—Biscuits

CORNMEAL MUSH.—The main difficulties in making good cornmeal mush are the care necessary to prevent the formation of lumps and the long time required to cook it. The surest way to avoid lumps is to mix the meal first with cold water enough to make a thin batter, and then pour this batter into the pot of boiling water (slightly salted) very gradually, so as not to stop the boiling process. Sufficient of the batter should be stirred in to make a thin mush, and the latter should then be boiled until it is of such consistency that it will hang well together when taken out with a spoon. The longer it is allowed to boil the better it will be, and, if long boiling makes it too thick, add more boiling water. It can be advantageously boiled two hours, but is eatable after twenty minutes' boil. If it is sprinkled into the pot of boiling water dry, do so very gradually and stir it constantly to prevent its lumping.

FRIED COLD MUSH.—Cut cold cornmeal mush into slices half an inch thick, and fry on both sides in boiling pork fat or butter. Or, dip each slice into beaten eggs (salted), then into bread or cracker crumbs, and fry. If fried in lard add a little salt.

OATMEAL MUSH is made the same as cornmeal mush, but must always be sprinkled dry into the pot of boiling water.

BATTER CAKES.—Put one quart of sifted flour in a deep dish, and mix with it one-half teaspoonful of salt, two heaping teaspoonfuls of baking powder, and one teaspoonful of sugar. Add warm water (milk is better) sufficient to make a thick batter. Then add two eggs, beaten light, and if they do not thin down the batter sufficiently, add more water (or milk). Beat thoroughly and cook immediately the same as slapjacks.

SLAPJACKS.—To properly cook slapjacks the frying-pan should be perfectly clean and smooth inside. If it is not, too much grease is required in cooking. Scrape it after each panful is cooked, and then only occasional greasing will be required, and this is best done with a clean rag containing butter. Drop thin batter in with a spoon, so that the cake will be very thin. Disturb it as little as possible, and when the cake is cooked firm on one side, turn it and cook on the other.

CORNMEAL SLAPJACKS.—One quart of cold water is mixed with meal enough to make a thin batter, one teaspoonful of salt and one or two teaspoonfuls of baking powder having been stirred into the

Digitized by Google

latter. The addition of one or two well-beaten eggs will improve it. Cook on a very hot pan, as above.

HECKER'S FLOUR SLAPJACKS.—Mix well one pint of Hecker's prepared flour with one-half pint of cold milk or water. Cook as above.

CRACKED WHEAT.—To one quart of the wheat add one tablespoonful of salt, and soak overnight in cold water enough to cover it. In the morning put the wheat with the water it was soaked in into a pot, cover closely and cook gently until soft—probably from one to one and one-half hours—stirring frequently to prevent scorching. When necessary to replenish the water add boiling water.

UNLEAVENED BREAD.—This is the kind almost wholly used by coasting vessels, and is cooked in a frying-pan, even when there is a galley-stove with a good hot oven on board the vessel. The dough is mixed up with a quart of wheat flour, one teaspoonful of lard, a teaspoonful of salt, and sufficient water to make it stiff. It is then beaten or hammered lustily on a board or smooth log until it becomes elastic. When cut up into biscuits it can be baked in the portable oven among the coals. It is called "Maryland Biscuit" along the Potomac and Chesapeake.

Eggs

FRIED AND BOILED EGGS are so easy to prepare that no instruction is necessary in these familiar methods of cooking them.

POACHED EGGS.—Into a frying-pan nearly full of boiling water containing a teaspoonful of salt slip carefully the eggs one by one, breaking each previously into a cup. Keep them on the surface of the water, if possible, and boil gently three or four minutes, dipping up some of the water with a spoon and pouring it over the tops of the eggs. Serve on toast.

SCRAMBLED EGGS.—Break the eggs into a cup to insure their freshness, and throw them into the frying-pan with a lump of butter and salt and pepper. Stir over a fire of coals until they are almost hard. Do not break the yolks at first.

Frizzled Beef, etc.

FRIZZLED BEEF.—Chipped beef comes in glass jars hermetically sealed and in small one-pound boxes. This makes a very good food,

Digitized by Google

and it may be eaten as sandwiches or it may be frizzled or fried in butter. It is a good idea to make a flour-and-butter gravy, as has been described, to pour over it, on account of the thirst that it will cause.

WELSH RAREBIT.—Cut bread into slices about one inch in thickness, and pare off the crust. Toast the slices slightly without hardening or burning, and spread with butter; cut slices of cheese not quite as large as the bread, lay it on the bread, and toast all over the fire on a broiler. Be careful that the cheese does not burn, and let it be equally melted. Spread over the top a little mustard already prepared and seasoning of pepper, and serve very hot.

Welsh rarebit may be obtained already prepared in cans which merely require heating.

HASH.—Chop up some fish, meat, or game with potatoes and onions. Mix carefully; have the frying-pan piping hot, put in enough lard or butter to cover the bottom. By placing the hash on this hot surface and quickly turning it, it will be nicely browned.

CORNED-BEEF HASH requires but little salt in seasoning.

PORK AND BEANS.—The right proportions are two quarts of beans to three pounds of pork. Pick over the beans at night, wash them, and put them to soak in cold water until the next morning. Then, if only boiled pork and beans are desired, drain the beans and put them with the pork in the pot, just cover with cold water, set over the fire (with the cover on the pot), and boil till the beans are tender, skimming the scum off as it rises. If baked beans are wanted, parboil the pork and cut it into thin slices, then drain the beans and boil as above. Put half the beans into the bake-kettle, then the pork, then the remainder of the beans, and pour over them half a pint of boiling water. Bake among the coals till the top is crusted brown. If buried in the ground, with a good supply of coals, it is best to put them in at night when going to bed, and they will be done in the morning. If the bake-kettle is enveloped in hot coals on the surface of the ground, they will bake on the outside quicker, but inside, where the pork is, they will not be baked at all. This latter method, therefore, should only be used when in a hurry, and in this case the pork should be scattered around in different portions of the pot, and the beans left may be rebaked for another meal.

Digitized by Google

Pudding

CORN-STARCH PUDDING.—Dissolve three tablespoonfuls of corn-starch in a small quantity of milk, add two eggs beaten light, and a small pinch of salt. Heat three pints of milk nearly to boiling, mix all together, and boil four minutes, constantly stirring. Dip a cup or basin in cold water to cool it, and turn into it the pudding, which should be eaten with sugar and milk when it is cold.

Practical Hints

Broil before a fire, not over it, because juices of the meat can be caught and used as a dressing, while in the latter manner they are lost in the fire and tend to give a smoky flavor by their ignition. In broiling, the article should be turned frequently.

FRYING.—The lard or fat used for frying should always be very hot before the article to be cooked is put in. If little jets of smoke issue from the top of the fat, it is hot enough. If the fat is insufficiently hot, anything cooked in it will taste of the grease, while the moment a substance is dropped into fat at a great heat the exterior pores are closed and no grease penetrates it.

MIXING INGREDIENTS.—Preciseness in the preparation of ingredients is an important element of success in cooking. Guessing at proportions is the practice of the lazy or indifferent cook.

NEW IRON POTS.—Boil a handful of grass in a new iron pot, then scrub it inside with soap and sand, fill it with clean water and let this boil half an hour. It is then ready to use for cooking.

Digitized by Google

TABLE OF APPROXIMATE WEIGHTS AND MEASURES.—The following table may be of use. It is near enough to accuracy for cooking purposes:

Three teaspoonfuls—One tablespoonful.
Four tablespoonfuls—One wine glass.
Two wine glasses—One gill.
Two gills—One tumbler or cup.
Two cupfuls—One pint.
One quart sifted flour—One pound.
One quart powdered sugar—One pound seven ounces.
One quart granulated sugar—One pound nine ounces.
One pint closely packed butter—One pound.
Three cupfuls sugar—One pound.
Five cupfuls sifted flour—One pound.
One tablespoonful salt—One ounce.
Seven tablespoonfuls granulated sugar—One-half pint.
Twelve tablespoonfuls flour—One pint.
Three coffee cupfuls—One quart.
Ten eggs—One pound.

YEAST.—A serviceable yeast for leavening bread may be made by mixing flour and cold water into a thin batter. Set it away in a bottle until it sours, when it is ready for use

It adds greatly to the comfort with which a meal may be enjoyed to have some form of dining-table. This may be an overturned box, a hewed-off log, or a piece of canvas stretched out. A camp-table may be readily thrown together of two or three boards placed over a stump or on

Digitized by Google

stakes driven in the ground. Connect the end-stakes with cross-pieces and lay planks from one cross-piece to another. Make it high enough to get the legs and feet under comfortably when sitting *on* the ground. *Build it away from the fire.*

DON'T FORGET—

To put on dish-water before sitting down to eat.

A sponge or old cloth may be used for a dish-rag. Have sand or Sapolio for scrubbing out cooking-dishes.

Throw on a few sticks of wood before sitting down to eat.

Remove the frying-pan from the neighborhood of the fire.

Put the match-box back in your pocket.

And be sure, if the weather has been damp or you have been overboard, that no damp clothing is where it will burn.

AND NOW—

Fall to with a good appetite!

Digitized by Google

Chapter XVI

KEEPING A CAMP CLEAN

PERHAPS the most serious problem that presents itself to the director of a boys' camp is that of solving the sanitation question.

Health is largely dependent upon absolute cleanliness. Where a number of persons are living closely together the constant and unremitting care of food, kitchens, milk-cans, meat-blocks, sinks, knives and saws, waste-pipes, damp drain-spouts, cesspools, and the cleanliness of the cooks themselves, are of utmost importance. The latrines or toilets must be considered by themselves.

KITCHENS AND FOOD.—After a meal there should never be any food left about uncovered or unscreened, as it attracts flies. Boxes or store-rooms are best screened, but in my experience it has not always seemed wise to screen the entire kitchen unless it is a spot where no breeze can blow through it. Screening causes dark corners and permits the overlooking of scraps of food or dirt; it also keeps out the breeze, which is of vast importance in summer kitchens, both for keeping the temperature down and keeping flies and mosquitoes out.

The garbage-cans should be emptied twice daily, and the

Digitized by Google

cans washed out with lime-water and hot soap-suds. A convenient way to dispose of garbage is to either sell it or give it away to a farmer. He will be glad to have it for pigs. If this cannot be done, the small scraps may be burned in the stove and the larger amounts disposed of as follows: Dig a well about six feet deep and two feet in diameter; fill this with stones loosely up to about two feet of the surface. In the opening thus left place a pail with a wire bottom, a gunny-sack, or a piece of canvas sewed around a barrel hoop and perforated with holes. The waste water may be poured into this and the solid materials which are sifted out should be burned or buried with lime. The liquids will run away and disappear. Sandy soil is better for this purpose than clay or coarse loam. If the discharge from a kitchen sink makes the ground soggy, cover it at once with sand and direct the dishwater in another direction.

Milk-cans should be thoroughly washed, scoured, and turned upside down in sunlight and air. They should always be large enough at their mouths to permit the entrance of hands for scrubbing. For this reason demijohns do not make good milk receptacles. I have tried all forms and found the heavy tin, large-mouthed cans best. Milk will sour very quickly when poured into cans that are the slightest bit foul. It will also sour if chilled, permitted to become warm, and chilled again.

Fish, meat, and strong food like cheese, onions, etc., should not be placed in the same refrigerator with milk. It will absorb various odors very quickly.

All floors, meat-blocks, carving-tables, serving-tables,

Digitized by Google

shelves, refrigerators, and food-lockers should be scoured at least once a week with boiling water and sand soap—twice a week in *very* hot weather. Be careful not to spill soup, milk, or the like, and if this happens wipe it up at once.

Dish-washing is one of the most important parts of kitchen sanitation. Plenty of hot water, soap, and *clean, fresh, dry* dish-towels must be provided.

COOKS.—Cooks must be clean in their habits and bathe frequently. A daily bath in the morning before the day's work is begun will keep many a cook in good health, and a more important thing—good spirits. He should also be free from disease in any form. Be assured of this by a physician if in doubt. Look out for any marks of drunkenness or moral or physical taint. A man to live in a boys' camp, where there must necessarily be some contact, should be pure-minded and free from profanity.

The same care of the dining-room should be observed as to scrupulous cleanliness.

LATRINES.—The latrines or toilets are all too frequently a source of menace in a boys' camp. There are several methods of disposing of the excreta. The army method of digging a trench, throwing the dirt back of it, and gradually filling it in is commonly employed. Another and fairly satisfactory way is to cover the deposit daily with lime chloride sprinkled from cans with sifting tops. In one camp I tried the Japanese army method of each day spreading clean straw in the pit and each evening saturating with coal-oil or gasoline, and burning. This is fairly satisfactory, but the odor of burning straw and kerosene is very unpleas-

Digitized by Google

ant. The ideal way is to have deep tanks or iron pails, one for each seat, in which the excreta is deposited. These tanks or pails are taken every morning at daylight away from camp, a mile or more, and buried in a deep pit. The pits are covered with lime chloride or earth until full. The sod, which has previously been carefully removed, is now replaced, and a new pit dug. The pails or tanks are washed with sand and hot water or lime-water until perfectly clean. This method is beyond criticism.

There should always be separate receptacles for water and fæces. Pits may be dug for the former four or five feet deep and filled in with small stones for one foot. Sawdust or fine sand may be placed on top. There will be scarcely any odor. Pine needles are still better. There should be day and night pits for this purpose. A lantern should be placed at night by both latrines and urine pits. When a pit becomes foul it should be filled in with stones or sand, and another dug.

On trips away from camp with small parties the leader should designate a spot for the latrine at each stopping-place. This and *no other* should be used. The same general methods may be employed as in the main camps.

Whatever form of disposing of this most important question is adopted, one thing should always be uppermost in the director's mind—the danger of mosquitoes or flies transferring infection to the kitchen or the persons of the campers. It is now recognized by medical experts that flies are a great source of danger in transferring disease. The latrine should be made as nearly fly-proof as possible. Tacking cloth around the seats will sometimes do this. Fly-

Digitized by Google

paper will help, and any other method that the ingenuity or skill of the director can devise will aid to safeguard the health of those intrusted to his care.

LAUNDRY AND CLEAN CLOTHES.—Boys are liable to be very careless about their underclothing, stockings, and jerseys unless watched. It is wise to have an older boy or counsellor tolled off to go about on Saturday night or Sunday morning and collect the soiled clothing. He should be sure that each boy delivers to him a pair of pajamas, underwear, and socks and stockings. Their plain marking by name or number is absolutely *necessary*. Boys will at times be careless about completely undressing and getting into pajamas. This should be promptly looked after by the counsellor in charge.

I was called to see a peculiar case of skin disease in a boys' camp at one time which had resisted the treatment of the local physician. The boy was wearing a red swimming-shirt which, it was found upon investigation, had not been washed for six weeks and had been worn *day and night*. Washing it and a soap bath for the boy cured his skin trouble.

POLICING CAMPS.[1]—Barrels or boxes should be placed about for candy-boxes, papers, old shoes, belts, and discarded litter generally. Into these all material should be thrown and the camp-grounds kept as clean all the time as a gentleman's lawn. There should also be appointed a "white-wing squad," to empty these barrels and pick up carelessly dropped odds and ends. They may be emptied into the fire or into pits and burned, but should never be dumped back of

[1] The military term for cleaning up a camp.

Digitized by Google

buildings or into clumps of bushes. They will attract flies and rats and other vermin.

TENT HYGIENE.—Tent floors are frequently the storehouse for candy, cake, and cracker boxes. This should not be permitted for the same reasons as given above, and the counsellor in charge should see that nothing is under the floors.

Tent "spreads" and "feeds" are bad hygiene, as the food attracts flies and other pests and also overloads boys' stomachs.

A tent will grow musty and its contents stale very quickly in damp weather or if closed up. Consequently, the end and side flaps should be opened early on sunshiny days, and wind and air permitted to circulate fully.

Trunks should be opened every two weeks, the trays taken out, and the contents exposed to air and sunlight. Otherwise clothing will readily mildew and leather will rot.

Damp bathing-suits and towels must be hung on guy ropes. Mattresses are to be turned daily, and, unless it is rainy or foggy, blankets must be hung out on a line provided for that purpose. This should be compulsory. An inspector may be provided for this purpose who makes rounds to see that it is carried out.

Digitized by Google

Chapter XVII

HOW TO USE A CANOE

BEARING in mind the many varieties of nomenclature that we now have in the out-of-door world, such as aircraft, icecraft, water-craft, plainscraft, etc., I shall use two generic terms—woodcraft and campcraft, or camper-craft—because we shall here consider two conditions.

First, there is the boy living in an organized camp having meals cooked and served for him, with a boathouse, a dock for landing, a place for housing his canoe, a cabin, bungalow, or tent with a cot or bunk ready to tumble in at night—a constant and ready shelter from sudden storm.

Secondly, there is the boy who makes trips away from the main camp where he will choose his own camping-place, erect a tent or lean-to, build a fire, cook, and cut wood. He must know on these trips how to equip a canoe, how to pack and care for it, how to paddle, how to land and launch these frail and silent Indian craft, and how to police camps.

If he is going on a hike or tramp he, of course, will be fitted out very differently than for a canoe trip. He must know how to care for his feet, what sort of shoes and socks to wear, and what to take. The arrangement of a blanket

Digitized by Google

for transportation on a hike is very different from that on a canoe trip.

Canoes and Their Cost

Canoes are made of various materials. The kind of voyage intended will determine the variety of canoe. Any canoe under sixteen feet is a dangerous affair, and should be used only by an expert. Its short length does not permit of sufficient beam for any stability.

The canvas-covered canoe is the one most frequently used, and with care in landing and a lookout for nails in hauling over dams, stumps, and sharp sticks on beaches, such a canoe should last for years. The canoes manufactured by the Old Town Canoe Company of Old Town, Maine, or by the Racine Boat Company of Racine, Wisconsin, are good examples. A sixteen-foot canoe costs about $35. The wooden canoe is made of cedar, usually with oak ribs and combings. If it is to be used as a sailing canoe it is generally decked over, having a small cockpit. This naturally increases its safety in rough water. These canoes cost from $65 to $150, according to nickel fittings.

In the Canadian rivers, lakes, and some parts of Maine, where a few Indians live, there will still appear the frail, graceful, birch-bark canoe. They are light and easy to paddle when not going against the wind. I have purchased an eighteen-foot canoe for $15 and sold it at $10 when I came out of the woods.

A birch-bark canoe is easily injured, and the seams need attention every night on landing if the paddling is done in a river where sandy shallows or rocks scrape the bottom.

Digitized by Google

W. H. Langley

A CANOE PARADE IN A BOYS' ORGANIZED CAMP

Digitized by Google

Repairing a Canoe

To mend a tear or rip in a canvas or bark canoe, or tighten up the seams, there is a gumlike substance that can be purchased at any outfitter's which when heated forms a waxlike covering over the opening which is watertight. The Indians melt a little pitch and rosin in an iron pot and smear it on with a stick. I have camped with Indians who carry a small pot full for that purpose tucked up in the bow of the canoe. Adhesive tape will also mend a canoe, and surgeon's plaster will answer this purpose. Beeswax will stop leaks.

How to Paddle

To paddle a canoe needs a little practice and understanding of its ways. Never push out from shore and then attempt to jump in, as you might do in a rowboat. Have the canoe afloat beside a rock, if possible, or let the bow merely touch the sand; then step lightly in—do not jump—and if two are going, the sternman sits or kneels down, steadying the canoe by holding to a branch or rock, or, if he desires to steady the boat by his paddle, always reverse ends, and let the handle bear the weight. The blade is very easily cracked by pushing against stones or sand. A broken paddle a hundred miles from home may be a severe handicap.

The bowman now steps in and sits down at once, and if the sternman has not floated the canoe, he assists him in so doing, using the handle of his paddle in pushing out.

Digitized by Google

In loading a canoe always be careful to ballast it "by the stern." The heavier man must always paddle stern.

In paddling, the sternman steers. This is accomplished by twisting the paddle, as it is drawn back in the stroke, until by a sweeping, circular motion outward the blade is parallel to the boat. This is in straightaway paddling to keep the boat in a direct path. Of course, in turning the canoe's head in another direction the motion is reversed. In steering it is very rarely advisable to change the paddle from side to side. This marks a novice at once. Two canoeists adapt themselves very readily to each other's strokes after a short time. If things do not go smoothly for the first mile do not be discouraged, for the second one is sure to go better. Canoeists drop into a regular stride with a sweeping, steady motion, just as a pedestrian does in walking. The novice will make the mistake of beginning his day by paddling as though his life depended on covering a certain distance in a given time. He will soon tire or get a very painful shoulder which corresponds to the neuritis, with which violin-players become affected at times. Begin slowly and paddle comfortably. It is good form to keep the arms as straight as can readily be done. This will depend somewhat on the length of arms and the position of the paddler. At the end of the stroke the upper arm should always be straight. In rough water use short, snappy strokes, recovering as quickly as possible. Bear in mind that a canoe usually upsets while the paddle is *out* of water. The bad name that canoes have as to "tippiness" is undeserved if any sort of care and judgment is exercised in their management. In fifteen years' experi-

Digitized by Google

ence with these boats on lakes and rivers of all sizes, as well as on the ocean, I have never had a spill, and have seen but two. One occurred at a small Maine lake on a perfectly calm, still day. A young man was reading in one end of the canoe and dropped his book, forgot that he was in a canoe, reached suddenly for it, and got a swim. The second was more serious. Two young men went fishing in a seventeen-foot canoe on a rough day and lay broadside to the waves. A steamer's wash made a sea that no canoe could stand. They swam to within fifty feet of shore, holding to the canoe, then released their hold, tried to swim in, and one never reached the shore. Had he retained his hold on the canoe he would have been saved. It is a good general rule to make, *never* to abandon a capsized boat or canoe until help comes or the feet can touch bottom. A boy can retain his hold on a boat almost indefinitely if the water is not too cold, while but few boys can swim more than one-half mile, particularly if frightened.

Equipment

Paddles should be six feet long for a boy five feet and eight inches or over in height; and five feet and six inches to five feet and eight inches for a boy under that. The bowman always has the shorter paddle. They should always be varnished, since this makes them shed water better and keep longer. The best ones are spruce or maple. Be sure that the wood is seasoned. The Canadian Indians use hard wood (oak or ash) paddles as they pole a great deal. They are strong but clumsy and heavy. Bird's-eye maple

Digitized by Google

makes beautiful paddles, but they are more expensive. Double-ended paddles are only for fancy work around a boat-club dock, and no real woodsman ever uses one. The cost of paddles is as follows:

First quality—spruce or maple . .	$1.50
Second quality—spruce or maple . .	$1.00
Bird's-eye maple, selected	$2.50–$3.00

Back rests and folding-slat canoe chairs are comfortable for a passenger, but they are not needed for a trip where boys do their own paddling. They cost from $1 to $2.50.

For sailing a canoe a lateen sail is used with lee boards over the side. The outfit would cost approximately:

Mast and step	$1.50
Lee boards	6.00
Sail (50 feet area)	8.50
	$16.00

Sponson canoes have air chambers along both sides, making it impossible to sink, and difficult to capsize. They will support three adults sitting on the rail without capsizing.

They are, however, not so easy to paddle, and much heavier.

Loading

Put your axe, fire-irons, collapsible stove, and other heavy articles in the middle of the canoe. They keep the ballast, and act as stringers on which to place weight. Roll or fold the tent as tightly as strength can do it; lay it lengthwise

Digitized by Google

PREPARING FOR A CANOE TRIP

Digitized by Google

fore and aft. Put your cooking dishes in a small box, and slip it under the seat in the bow. This will keep them together and not get smut all over the other things, including your fine cedar flooring. The best thing that I have ever found for carrying dishes, knives, forks, spoons, is a tin cake-box. These boxes can be purchased in any department store for at least twenty-five cents, and are watertight, compact, convenient, and make excellent receptacles. The square kind about 1½ feet long are best. In such a box also put such odds and ends as mustard, pepper and salt, bread, crackers, cheese, and any food that water or sun will spoil. The lid will shut tightly and has a clasp. Put it under your stern seat.

Reserve the small 6 or 7 inch decked-over places in the bow and stern for the sweater, coat, or shirt. This will keep them dry until you need them. The feet will often tire in an all-day grind, and paddling in stocking-feet is often a relief.

Rough Water

In rough water keep the paddle moving in the water as much as possible, and minimize the amount of time that it is in the air. Keep the boat ends on to the waves either going to windward or running before them. In whirlpools and rapids let the bowman paddle and the sternman keep his paddle in the water to act as a rudder, ready at any moment to swing to avoid a rock or hidden danger. In going up a rapid rocky stream use a pole and push up; do not attempt to paddle. If a steamer passes near, even on a still day, point the canoe's nose toward the waves raised.

Digitized by Google

A well-ballasted canoe is always safer than one lightly loaded, and is more buoyant the lower the centre of gravity is placed. In other words, a canoe with its occupant sitting or kneeling in the bottom is much safer than one with the crew sitting on the seats or thwarts. If alone, put a weight in the bow and paddle from the centre of the canoe. With a man and a sack or two of flour and camp duffle resting in the middle, besides the paddlers in either end of a seventeen-foot canoe, an almost unbelievable amount of heavy sea will be weathered. I have seen Big Thunder, chief of the Old Town Indians, in a birch-bark canoe outside Mt. Desert Island in a blow riding the waves like a sea-gull. So be light of foot, steady of hand, strong of arm, and wary in judgment in your canoe. It will carry you silently and swiftly "along the listening woodland"—the very embodiment of its savage maker.

Digitized by Google

Chapter XVIII

MAKING A TEMPORARY CAMP

HAVING now learned how to paddle a canoe, how to pack and equip it, how to erect a tent, and lay the bed, suppose we paddle along shore to some small, attractive island and see how one would go about "making camp."

Comfort in a woodland camp does not consist in having a number of patent contrivances, and collapsible beds, cushions and chairs, but rather in taking the abundance that Nature offers and adapting it to answer needs. An hour of intelligent work will transform a wild piece of woodland into a home that looks and seems and feels like home. It is astonishing how true this is. Looking back ten years, I recall with tender memories a certain brush-house where, with two companions, I spent a week on a Maine island. It was a lonely place, without fresh water, and the tide went out over flats for a half-mile. Because we constructed it ourselves it seemed "homey" when the camp-fire gleamed between the great rocks. And then the matter of that camp-fire! It will pay to take time and trouble to construct a carefully built fireplace, or to secure a back log and plenty of wood. It is the wilderness hearthstone—

Digitized by Google

the place that draws the group around it, and from which most of the comfort comes.

Paddle the canoe gently to the beach, selecting a large rock, or fallen tree which offers the best landing place. Never paddle a canoe upon a beach with any force, as would be done with a boat. When the fending-iron touches, the bowman puts his paddle carefully into the canoe. Do not throw it ashore, as this might split the blade, or the paddle might be washed away by waves or a swift-running stream. The bowman now steps out and steadies the canoe until the sternman can get ashore. Together they lift the bow in the air and draw it along until the stern lands. One man now goes down the beach and takes the stern up, and together they carry the load to a place of safety.

In picking up a canoe place the hand under the deck in either end. If carrying a very heavy load (175 or 200 pounds), lighten the canoe before carrying far. It may strain the woodwork.

In making camp it is of vast importance to have the work carefully divided. In unpacking place cooking dishes together, while provisions in the tin and wooden box as previously described may be left in the canoe temporarily.

Unpacking

Before unpacking any small articles, spread out a blanket, piece of canvas, or poncho to place them on. It is the only way to avoid those incomprehensible and numerous losses which are so annoying to new campers. An excellent plan that I have often adopted when stopping for a noon meal

Digitized by Google

en-route is to select a log with one side hewed, or a large, flat rock, and place everything on that. It is a wonderful time-saver, and the fire may be built against the same rock, or the log used as a back stick.

While one boy is unpacking the other should be building a fireplace and gathering wood. I know of no one thing in the making of camp where boys fall short more frequently than in gathering wood and building a fire. Over and over again, in the woodcraft tests in boys' camps, which will be described later, have I seen them gather the damp surface carpet of leaves and mouldy sticks with which the forest floor is covered, and, heaping them together, expect a fire. Of course, only a temporary smudge results. (Refer to Chapter VII.)

A simple fireplace is soon constructed with two or three stones placed together somewhat like the letter U. The back may be against a bank, ledge, or log. Have the fireplace always face the wind. It creates a draught. Do not build a fire under overhanging dry branches or on a floor of pine needles. In fact, always clean the floor of your fireplace. This avoids the danger of spreading a fire, and makes a better bed for your coals. It is a good idea, however, when possible, to build the fire in the shade.

Firewood

An old camper and guide said: "Get all the wood you can, and after you have done that—get some more wood." Having it cut and ready may save a meal, or a trip into the dark woodland to collect it. New campers seldom ever have enough wood, or the proper kind.

Digitized by Google

Hard wood makes the hottest coals and burns longest. Pitchy woods light quickest and burn more readily, making a hot, blazing fire.

If choice is permitted use dry-seasoned hard wood that has been down some time.

If one is stopping for one meal the fireplace that I have described will do, but if a stay is expected it will pay to construct a more elaborate one. This may be done excellently, as explained before, by cutting two logs six to eight feet long and about five or six inches thick, and placing them side by side at an angle, so that they meet at one end, forming a long letter V. Hew the tops flat, making thus a "sideboard" or "dresser" for dishes, pans, pots, etc.

Take a large handful of shavings or birch bark and place at the open end of this fireplace, or "range," cover with small dry sticks, and light. Feed this with larger and larger sticks until the regular firewood size is reached.

Firewood should be split and about a foot long. It should also be as near a uniform size as possible. If large and small sticks are used the small ones are dead ashes by the time that the large ones are coals. Round wood does not burn readily, and will nest too closely to allow air to feed the flames. Driftwood is good material to start a fire, but burns out rapidly and leaves ashes, not coals. Almost all novices make the mistake of building a large, blazing fire, thus scorching their faces, burning up their food, and making cooking difficult, or impossible. Never attempt to cook until the fire has burned down to coals, or a small blaze, if your pot is hanging over the fire on a forked stick.

Digitized by Google

Arrangement of Cooking Dishes

Place the coffee-pot at one side over the coals, and the frying-pan upon them. The larger pot or pail with cereal or stew may be placed down farther on the "stove" nearer the juncture of the logs. Here the fire will make this simmer. A broiler with steak may stand up at an angle over the bed of coals, with the handle resting against the coffee-pot or an end of the logs. Always sit to windward of the fire, as it is cooler, and little gusts of wind will not then blow ashes into your face or upon the food. In cooking beans, or anything which requires hours, dig a hole a little larger than the pot they are to be cooked in. Build a carefully laid fire, placing the wood in the form of a hollow square—one stick on top of the other. You will understand this when you think of the manner in which a log cabin is constructed. Use hard wood split, and sticks of nearly the same size. Permit this to burn out completely; dig out the coals, put them at one side. Place the bean-pot in the hole and cover carefully with coals, and leave six or seven hours.

Building Fires

As has been previously said, and it cannot be reiterated too frequently, get plenty of wood, both large sticks for the fire and small ones to start with. Do not gather leaves, damp twigs, or moss. Remember that the splintery inside of wood will ignite much more rapidly than the outside.

Digitized by Google

Be sure that all your materials are at hand before you commence to work. Good fires require patience and skill in construction, but are worth the effort required. A campfire may be built in several shapes, but they all require four things: (1) Some light inflammable material such as shavings, paper, or birch bark for base; (2) small twigs, splinters, driftwood, sticks, broken boxes to make first blaze; (3) the real wood of the cooking or warming fire—sticks of a uniform size, split open; (4) oxygen under, in, and around the fire. That is why there are drafts under the kitchen stove and furnaces. Air must rush into the fire or it will not burn. Consequently, if you have any choice, build your fire where the wind from the river or lake will blow into it. If possible, have a back for the wind to fan against and create a current. If building a fireplace in an open spot leave two or three openings on opposite sides, which may be covered or uncovered with flat stones according to the direction of the wind.

Fires are usually built in one of three forms. One, when some form of fireplace is employed, as two logs in V-shaped formation, rock fireplace, or mud construction; secondly, in the log-house fashion, where a hollow square is constructed of sticks of the same size and length filled in with shavings, splinters, etc; third, the Indian fire, which is built around in a circle like the spokes of a wheel, with the sticks resting on each other at the butt, what would correspond to the hub of the wheel being the first element of fire constructions in shavings, splinters, etc.

Digitized by Google

Making Fires Without Matches

The "Deadwood Dick Stories" always describe the hero as building a fire easily and comfortably by rubbing two sticks together, but I have never been able to do it. It can be done, however.

Firing a blank cartridge on a dry linen rag placed on the barrel of a gun will ignite it, and from that a fire may be made.

A glass crystal will quite readily ignite dry punk or paper or birch bark. A watch crystal will do also. Sparks will, it is true, be struck from a knife blade or quartz or steel or flint, but to convert this into fire is very difficult. For boy campers I would suggest that plenty of matches be carried in a waterproof match-safe, with a cover that will not become lost. To keep coals while absent from camp, or during the night, cover them with hemlock bark.

Woods

The soft woods are good only for kindling or for quick cooking-fires. Balsam, fir, basswood, tamarack, gray pine, and sycamore are all good fuel, while birch, oak, hickory, hemlock, and maple are the best.

Kindling may be obtained from the dry, smaller branches of almost any fallen tree or a stump that has not all rotted down to the ground. Along the salt water driftwood makes kindling beyond comparison if split open.

Digitized by Google

Building Fires in the Rain

It is good practice for boys to build fires in the rain, or on a damp, foggy day. This may be practised at home first, using only the material found out-of-doors.

In the woods there may be frequently found a half-dry spot under a shelving rock or a large tree fallen or standing; around this will be dry bark, small twigs, or fallen wood. Carefully shaving off the outside of most small fallen wood will reveal a dry surface for splinters.

To Light the Fire

Long tramping or paddling may have pretty thoroughly soaked the camper. A dry spot for striking a match will usually be found, however, on the inside of high boots, or in a felt hat. Strike the match and instantly cup the hands to protect the flame. Face and point the match-head toward the wind. Protect the kindling and splinters with the body or a blanket until they burn well. If a fire is even slightly sheltered from the direct pelting rain by a rock, shelving bank, or fallen tree, it will still burn in a bad storm.

Matches that have been wet by being dropped into a pool of water, even for five minutes, may be dried by rubbing them through the hair.

Camp Stoves

There can be no doubt that cooking may be accomplished quicker and with greater ease on a stove. How-

Digitized by Google

ever, there are two very excellent reasons why stoves are not always advisable. One, because the true camper, the boy or girl who loves the open country, prefers to bake and cook on the woodsman's own stove; to use as nearly as possible woodland materials which Nature has provided with a lavish hand for those who can see. There are, of course, times when a stove is advisable. There are two chief varieties — one using alcohol and the other kerosene as fuel. The alcohol stove of two burners is compact and light. It is simplicity itself. Fill the tank with denatured alcohol, turn on the stopcock, apply a match, and it is done. I have used one on a yacht, and after it was started without further trouble this automatic servant served up piping hot coffee and cereals. The objection is the expense. A two-burner alcohol stove with a copper tank costs about $9. Denatured alcohol varies in price, depending on where it is purchased. A fair average is 25 cents a quart. With care a quart will last a week.

The kerosene stoves are of two varieties—one with gravity feed, and the other with forced draft. A good example of the former is the blue-flame stove manufactured by the Standard Oil Company. They cost $7, and have an oven that will bake bread and biscuits. They can be obtained in any large department store, in the house-furnishing department.

The forced-draft stove has an arrangement for pumping compressed air into the flame, causing it to burn with great force and intense heat, after the manner of a plumber's blow-torch. The stoves are called Primus, and may be purchased at any yacht outfitter's along Chambers or South Street in New York; cost about $4.50 to $5.

Digitized by Google

There is also a small kerosene stove that is really nothing but a lamp with two burners, and one is supposed to cook with it. My advice regarding this is to leave it at home. It is smoky and smelly. If you feel compelled to take it, put it in a tin pail where the oil cannot reach your provisions. Kerosene has a way of getting into everything on a cruise.

Then, of course, for a fixed camp or yacht, there is the regulation range for burning wood and coal. The best for yachts is the Shipmate range with four covers. It has a rail around the top. This prevents the pots from going adrift.

Digitized by Google

Chapter XIX

HIKING OR TRAMPING

TRAMPING through a country is undoubtedly one of the most attractive ways to view it. It is a pastime looked down upon with scorn in too many instances in this country. No doubt the fine, fresh color and general robustness of the English people is due, in large part, to their being a walking nation.

"Hiking," or tramping, is an art, as every army officer knows, and the amount of intelligent care that is put into it will determine the pleasure and benefit derived. Various conditions must influence the length of march, the amount carried, and the frequency of rests.

The first factor is age and physical development. Decided harm may be done a boy in his early teens by forced marches either from an organized camp or from his home on a jaunt of a day or two. Pride will often keep him going long after he ought to be recovering his spent vitality.

It ought to be a rule in all boy camps that no one whose heart is not first examined should be permitted to attempt a mountain climb over one thousand feet or a long march. I have discovered "heart trouble" caused by leaky valves in boys where it would not have been suspected from their

Digitized by Google

robust appearance. In speaking of a march or hike, reference is made to those on which the blanket, food, and other equipment are carried for an overnight trip or longer.

The other considerations which should govern a counsellor, master, or leader, as he may be termed in a boys' camp, are the weather, climate, roads, water, weight carried, rations, character and condition of clothing—if torn, binding, chafing, etc. Also the *spirit* of the party. This is of great importance, and a good counsellor, as the head of boys' parties will be called here, must invent and devise various methods of keeping his command in good spirits.

I have seen a tired and drooping party of boys cheered up by singing. Drumming out the time of footsteps on cups is a wonderful help in climbing hills.

Stories of the country passed through help a boy's imagination. Placing the little party into military formation, with advance and rear guard, adds interest, while changing company formation will make walking seem less monotonous. This may be accomplished by such commands as "Form fours! March!" "Form twos! March!" "Single file! March!" If these commands do not correspond to the latest military tactics they will answer for the purpose.

Distance to March

As has been said, the distance to be covered is influenced by many factors, and in these the condition of the roadway must figure prominently. Dust, mud, sand, and grade must be those most frequently considered. Obviously, a boy cannot walk as far in a rough, mountainous country as

Digitized by Google

in a level farming district. A good average, however, is twelve miles a day for a *seasoned walker*. Many boys cover twenty-five miles easily for three or four days, but they are exceptionally strong. It would be a mistake for a party of city boys to start out expecting to make a forced march of eighteen to twenty miles the first day. They are not trained to carry blanket-rolls and provisions, and are accustomed to the level pavements. Begin gradually and work up.

Some general rules that I have worked out with several hundred boys may be found useful:

(1) Choose boys of about the same age and strength.

(2) Be sure to have one or two optimistic spirits along, if possible.

(3) March two miles and rest two minutes, dropping packs, *but not sitting down*. It stiffens muscles.

(4) Gargle the throat frequently with cool, fresh water, but do not drink except at meal-time.

(5) Keep a *steady* pace, and *keep together*. The stronger ones hurrying ahead and appearing on the next hilltop beckoning tend to discourage the weaker marchers. The good "spirit" of the party is in danger at once.

(6) If a boy limps, investigate immediately and *take his shoe and stocking off at once*. Do not wait until camp is made. It may save him weeks of suffering.

Clothing

Every boy should have a flannel shirt and a jersey or sweater around his waist. The flannel prevents the too

Digitized by Google

rapid evaporation of heat and the consequent catching cold. This should be true in the hottest weather. Under no circumstances should a boy start on any trip, whether by canoe or walking, wearing a linen or silk shirt.

The matter of trousers is not important; the boy can wear any old pair of comfortable ones, fitting around the hips so that a belt and not suspenders is worn. Many organized boys' camps have a uniform—some of flannel and others of khaki.

HATS.—The hat most comfortable in all weather, I have found, is a felt hat with the sweat-band torn out and a flannel one substituted. It sheds water, will make a drinking-cup or a pitcher—is adapted to all sorts of weather. Some men prefer a flannel or cheviot hat or cap, and they are a comfort on cold, windy nights. Never wear a canvas or linen hat. They permit the rays of the sun to come directly on the head and after a long rain are about as much use as so much paper. Always have plenty of air space in the crown.

BELTS should be broad and worn loose over the hips. Never pull tight, as they may injure the abdomen.

SHOES.—This is a very important feature of the equipment on walking trips. A heavy pair of thick-soled, high boots are best. They should be so wide and long that at the end of a day the toes do not crowd into the end of the shoe. Have broad, low heels. Rubber heels do not make much difference on country roads or mountain trails. Shoes should fit evenly without pressure or pain anywhere. Do not wear patent leather or any fancy shoe. Always have lace shoes—not button. The high "hunting boots" are too cumbersome for long walks. Army leggings are a wonderful

Digitized by Google

help in walking. In wet grass or muddy roads they are a comfort indeed. Weston, the famous walker, and the soldiers of all nations wear them. Try them.

Socks.—Woollen socks, even in summer, are best. The thickness prevents the leather rubbing on tender flesh and keeps out sand and dirt; at least two pairs should be taken and a clean pair put on each morning, one being washed out and dried before the fire or at some friendly farmer's each night. The extra pair may be carried inside the shirt.

Bathing the feet frequently is one of the most important points to consider. This should be done every day at the end of the march as regularly and faithfully as the getting of the evening meal. To permit a boy to start the day with dusty, soiled feet and damp socks is to court disaster.

HIKING

THE DIVING-BOARD

In hot weather and in particularly sandy or dusty roadways it is sometimes advisable to wash the feet as many as three times daily.

I have seen boys come into camp after a two-hundred-mile jaunt through the rocky roadbeds and deep dust of the Adirondacks as fresh and buoyant as if just starting.

Digitized by Google

On these trips the boys' feet were all washed twice and sometimes three times daily. A bit of castile or Ivory soap softens the tender spots when washing in the hard water of mountain streams. A very necessary point also is to dry the feet carefully and thoroughly. If this is not done various forms of skin irritation, varying from mere chafing to real eczema, will result.

Dusting powder on the feet and between the toes is an excellent plan. I use a powder that is employed by the soldiers in the Kaiser's army, called German Military Foot Powder. It may be purchased in almost any large drug store. A convenient way to carry it is to have a small bundle of powder papers made up as the druggist prepares medicinal powders, in papers folded twice in the middle and on each end. Slip these into a small envelope or pocket-book. Extract them as needed. They may be carried in the trousers watch-pocket.

BLANKETS AND PONCHOS.—A poncho is a rubber blanket and is absolutely indispensable on any outdoor trip. It is forty-five by seventy-two inches, and costs $1.50 to $2.50. Give a regular soldier the choice between discarding his felt hat and blanket or poncho and he will throw away everything but his rubber blanket. These are all made with eyelets in the four corners, which are convenient for lashing about blankets or other bundles, and may be utilized as tents or shelters. Some ponchos have a slit in the middle through which the head may be thrust and a rubber coat thus improvised.

Blankets vary all the way from the thin half-wool and costing about $1 to the heavy "army" one costing $5.

Digitized by Google

Gray or dark blue is the best color, and the heavy one will pay for its extra cost the first cool or damp night out.

CANTEEN.—When travelling in a country where water is difficult to obtain a canteen may be found a great comfort. The one used in the United States army is an excellent example. It is made of heavy block tin with a patent lock, cork and chain, and covered with thick absorbent felt, which is soaked with water at time of filling. A heavy dry canvas covering is then drawn down and laced over the soaked felt, confining the moisture and retarding evaporation, thus reducing the temperature of the contents of the canteen. This canteen can be used as a hot-water bag in camp. It holds half a gallon, and the cost is $1.75.

One of the first things to do in making camp is to cut small balsam boughs, if they can be had, for the bed and "thatch" it. For present purposes we need to amplify the description in Chapter VI.

After the "mattress" of boughs or hay has been laid on a smooth spot, care having been taken that all sticks, stones, and hummocks are removed, cut head and foot logs, stake them in place by inverted crutches or pegs. Lay the poncho *black* or *rubber* side down. Drive pegs through the eyelets in each end to prevent its creeping. The sweater, rolled up, makes a good pillow. Roll yourself up in the blanket so that a fold will be underneath as well as above. In rainy weather dig a little ditch around the bed so that the water may drain down a small elevation.

IN THE RAIN.—Two boys may keep reasonably dry in a forest by sleeping together. By placing one poncho under and the other over them, a rather severe rainstorm may be

Digitized by Google

weathered in comfort. Put a slouch hat over the face to keep rain out. There is also the advantage of double warmth from two blankets. Sleeping together except in rainstorms should be discouraged. "Horse-blanket" safety-pins will prevent the feet from becoming exposed, and may also be used to convert the blanket into a sleeping-bag. These large safety-pins may be obtained at any harness store. Cost, 25 cents a dozen.

AROUND THE FIRE.—In building a fire to sleep around, it is wisest to follow the Indian plan of making a small hardwood fire and getting the back close to it, in preference to a roaring blaze that scorches everything. Try and find a good hardwood log. Have small split sticks near so that the fire may be replenished during the night without getting up.

Cut two forked sticks and connect them with a cross-piece to dry the socks and damp clothing on. Before you turn in make preparations as fully as possible for the work of the next day.

ON MAKING BLANKET-ROLLS.—Spread the poncho, black or face side down, and lay the blanket *smoothly* on it. Put in any articles that you may wish to carry in the roll, as towels, soap, extra socks, etc.; also canned goods may be comfortably carried in this blanket-roll. Roll up as tightly as possible—then unroll and roll up again; this second trial will make it smaller and more compact. Strap with a skate strap, or tie in the middle and at each end. Be sure that this is done *below* the contents of the roll or they will be lost by the wayside. Now strap the two ends of the blanket together and slip over the head so that it rests on one shoulder.

Digitized by Google

ARTICLES NEEDED FOR COOKING.—The articles in common, as coffee-pot, stewpan, hatchet and pail, may be divided equally among the party. As to carrying extra food and equipment, there is the choice between the Adirondack pack-basket and the regular army knapsack. The former is stiff and holds more; the latter is light and holds less, but hangs less comfortably going uphill. The Indians in Canada carry the load by a "tump line," which suspends all the weight from a band passed around the forehead. This is said by those accustomed to it to be as comfortable as any way of toting.

WHAT TO CARRY:

Blanket, army, weight	4½ lbs.
Poncho, 45 x 72 ins., weight	2 lbs.
Sweater, varsity, high neck, weight . . .	1½ lbs.
Share of cooking utensils, large spoons, knife, cups, matches, etc., weight. . . .	2½ lbs.
Food, according to trip . . . . about	4 lbs.
	14½ lbs.

This is a list of the absolutely indispensable articles.

POINTERS.—Always go into camp an hour before sunset. Here, as in the canoe trips described, divide the work, one going for wood and water, while another builds a fireplace, etc.

Never carry weight so as to press on the chest. It obstructs the amount of oxygen taken and lowers the vitality.

SLEEPING IN BARNS.—*Hay Fever*: Many times a kind-hearted farmer will permit sleeping in his barn. Hay makes a good bed if smoothed out. Beware of the danger of fire here. Make no light *at all* in a haymow. Lay your blankets

Digitized by Google

before it gets dark. I have spent some uncomfortable nights for not doing so.

Boys with a tendency to hay fever should not sleep in a haymow or near freshly cut grass below two thousand feet elevation.

WATER.—Take care of the drinking-water. It is vastly important. There is no test that can be readily applied and at once which will determine whether or not water is pure enough for drinking. Its appearance, color, and odor help some, but not much. The only test that the leader of a party can apply is to determine in a general way the source of the supply. A river just below a town is always polluted. A brook running through a barnyard and a well behind a stable are always to be avoided.

FILTER.—If one has time, a filter may be constructed by boring a hole in the bottom of a pail and attaching a piece of hose or a pipe to it. Fill in fairly large stones (walnut size), then an inch or two of smaller ones (pea size), then coarse sand, finally fine sand, and pour your water on top. Pure water will result.

AFTER HEAVY RAINS.—Remember that after a heavy rain rivers and streams are apt to be polluted by foul material that has been rotting in the sun beside the normal waterways. The New York State Board of Health and the Vermont State Board of Health both give Lake Champlain and all large lakes having any manufacturing or towns on their shores as unsuitable for drinking purposes. If water from a lake must be used at a cottage or camp, have the pipe sunk as deep as possible with a filter on its end. An intake pipe in a well or lake below a latrine or toilet which

Digitized by Google

has a slope toward it is always in a bad place. Put the pipe around a bend in the shore line or where the land dips in an opposite direction.

Do not camp along river bottoms. Go up to the high ground at night. All the Maine rivers have very high banks and are thickly timbered. These make excellent camping spots. Water may be obtained from wells at *occupied* farm-houses.

Do not drink from the wells of abandoned farms. They may contain dead animals.

LONG HOURS OF REST.—It is most important for a leader to have his boys *in bed* at 7.30 P.M. after a day's march. Nothing debilitates boys more than loss of sleep. They will recuperate wonderfully after a hard day if given good food and ten or eleven hours' sleep. If it is necessary to move about the camp, do so *quietly*, and avoid loud talking.

REASSURE BOYS AS TO OUT-OF-DOOR DANGER.—The city lad's nerves are not attuned to the new conditions of the great out-of-door world, and they are indeed strange to one who has perhaps never previously slept out of his own room. There is no danger from wild animals in sleeping out except in extremely wild countries, such as boys would seldom visit, and even then very little with a camp-fire going. The leader should reassure a party of boys on this point.

WOODEN DISHES, ETC.—Dishes may be made from birch bark that will hold hot coffee or soup. Cut a strip of birch bark in oblong shape and fold up its ends, pinning with wooden slivers, and you have it. Look out for knot-holes or worm-holes.

MOSQUITO-NETS are of great value when camping in a

Digitized by Google

country where these little pests abound. Their weight is not a factor, and they can be rolled up in a small space and lashed firmly to prevent tearing. Build a little framework over the head or erect three short poles, tepee fashion, over the body; drape the netting, and crawl in. Be very careful to shut all the openings after you. The netting cannot be simply placed over the face unelevated, as the mosquitoes will sting through it.

HATCHETS.—A hatchet (No. 1) has a fourteen-inch handle, weighs one and a half pounds, and costs 60 cents. It may be carried in a leather sheath. This costs 75 cents. The Marble safety pocket-axe has a nickel-plated guard for the blade, which springs in the handle when not in use. Weight, sixteen ounces. Costs $1.35.

A pocket flash-light and a can-opener will be found useful.

Digitized by Google

Chapter XX

CAMP OR SCOUTING GAMES

War Game No. 1

THE war game as played at some of the New England boys' camps is readily adapted to boys in the suburbs of cities or in the country. It is best played in the woods.

The party is divided into two armies which may be called the Northern and Southern Army or Red and Blue Army. Commanders and officers are next elected.

A certain line of division is decided upon, as a roadway, a fence, or a stream. All the territory on one side belongs to one army, and all the territory on the other side belongs to the opposing forces.

Next, a given time is agreed upon for beginning and ending hostilities. For example, say the war is to begin at 10 A.M. and end at 1 P.M. See that the watches of all the party are set alike This may cause dispute if not attended to.

The scouts of one party now endeavor to get into the country of the other *without being seen*. If one scout calls the name of another that scout is "dead." When two or more scouts have the same name the first name or initial must be given.

Digitized by Google

The defenders may post themselves along their line of defence behind rocks, trees, fences, etc., and pick their men off as they attempt to cross, or may sally forth into the country of the enemy and endeavor to head him off.

The attacking party may use any ingenious means that they can devise to cross the border-line except to disguise themselves. They may ride across the line in a load of hay, climb out on the limbs of trees and drop down, wade up a stream, swim down a pond, or go under a bridge.

The chief point of this game is for the scout boy to admit honestly and fairly that he *was* seen and his name called out. If any boy does not act honorably, of course that whole game is lost at once.

If two boys shout each other's name at the same time they can draw lots to see who is "dead" or disabled.

Sometimes amusing incidents occur, as when two scout boys suddenly come upon each other and in the excitement of the moment are unable to recall or shout the other's name. They will frequently stand muttering and sputtering, unable to *say* a word. In Maine last summer one boy rode through the lines safely curled up in a baby-carriage; another joined a gang of section men and rode over the line on a hand-car.

The winner is the side that has the larger number of men left at the expiration of the agreed-upon time or the greater number in the enemy's territory.

The Besieged City Game

A small town or group of farm buildings is surrounded by a certain number of scouts. They conceal themselves be-

Digitized by Google

hind walls, trees, etc., and a scout volunteers to go through the lines of the besiegers to carry a message to the commander of the city. If he gets through the line it counts one point, and if he succeeds in bringing a return message it counts two points. The commander may be some one previously agreed upon—as a friendly storekeeper, the postmaster, or the station agent. The besiegers may not enter the town beyond a point agreed upon.

In this game the scout boy carrying the message must be caught and detained. If he can escape and perform his duty it still counts to his credit.

Attacking Party in Canoes

The game is played at night, and it is best played on an island or promontory, since the longer shore line in either case will offer more chances for landing.

The camp is divided into two parties; one is to defend the stronghold and the other to attack in canoes.

The canoe party must actually get foothold on the land to count. If they are discovered and touched before the canoe is beached, they are out of the game.

Should a canoe succeed in landing, it is a winner and its occupants may not be molested.

If the canoe party has more men landed safely than the defending party, they win.

This is an exciting game and holds the interest at an intense pitch. Bonfires may be built by the defenders to discover the enemy, but lanterns and electric torches are barred out as artificial and unfair aids. Any number may play the game.

Digitized by Google

Ensai-Tai Parties

These are Japanese words meaning exploration party. This game is always entered into with great spirit by boys, and can be played by any number of boys over any amount of country. The incentive to *go on* is ever present, as will be seen.

The element of uncertainty and romance in this game is created by the fact that *no one* in the party knows where he is going or how long he is to be gone. A chief counsellor or the director has previously gone ahead and "planted" messages which are to be found by the party one after the other. For example, the director lines up the *ensai-tai* party and reads directions for their start (equipped with ponchos and blankets and two days' rations). "Proceed at once, following the main road to a fork, take the right-hand branch and walk until a red house is reached. At that house ask for the second letter." This letter may read: "Follow this road, going north, until you come to the river; turn east and follow the eastern bank of the river until you come to the toll-bridge. Cross this and camp for the night. Ask the keeper of the bridge for a third letter. Fresh water will be found in a spring there."

Second Day: Third letter says: "Now proceed to the town of N——, see the cotton-mills, make note of number of men employed and output. Report on the power employed. Leave N——, going southeast, following the railroad track two miles; you will reach a large oak forest; cross this at right angles to the road and you will come to a

Digitized by Google

trail; follow this until a guide's cabin is found. The cabin is of logs, and the guide's name is X——. He is friendly to our interests, and will guide you. Behind his cabin one hundred yards, at the foot of a pine-tree, dig for more careful directions."

Here will be found a can with the directions for coming home, and perhaps an invitation to some festivity as a reward.

This game may, of course, be varied in a hundred ways, depending on the country passed through. It is a never-ending source of amusement and interest.

A boy's powers of observation may be trained by having him report on the number and quality of wells; the number of farms passed; the nature of the country; the characteristics of the people encountered; camping-places; birds seen and identified.

Canoe Tag

This game tests the skill of canoeists, and teaches rapidity of paddling and turning. Any number of canoes may participate. Two or three may be in a canoe.

Each canoe is provided with a willow switch about four feet long—the "tagging stick." It is small enough and light enough so that it will not hurt any one. The touching is all done with this stick, and either the canoe or its occupants may be touched. "Cutting out" may be practised, as in the game on land.

Water Baseball is played much like the game ashore, with floats for bases, the players swimming from one to another. The ball used is large and watertight.

Digitized by Google

AN INDIAN DANCE IN A BOYS' CAMP

Digitized by Google

Capturing the Flag

A small American flag is placed in an open field not more than two hundred feet from a thicket or woodland. The defenders conceal themselves around this spot behind trees and rocks. The attacking party creeps up as near as possible to the open space without being seen. Then some one is selected to make a dash for the flag. If he is seen by any member of the defenders and his name shouted, he is wounded and out of the game. On the other hand, if any of the attacking party see and call out the name of any of the defenders, they are out of it.

The scout boy making the dash for the flag may or may not be disguised, as previously agreed upon.

It is a good plan for the attacking party to completely surround the flag and gradually stalk the defenders. Any scout boy may rush from each of the four points of the compass at the same time. The defenders will, of course, endeavor to pick them off.

Indian Games

In addition to the woodcraft learned originally from Indians, which is touched upon elsewhere, there are various so-called Indian games which have been practised at some camps. The boys have obtained costumes, erected tepees, and held dances, "deer-hunts," etc., according to rules; but the writer has never found these rather artificial recreations necessary.

Digitized by Google

Map-making

To teach accuracy of judgment and habits of observation, maps of the surrounding country may be made for a radius of two or three miles.

The lakes, streams, and roadways should be put in as accurately as possible. These are then marked according to the standard set by Government maps.

Feet and Inches

In two of the camps with which I am familiar, one of the points toward the camp emblem is the Woodcraft point. Various questions are asked to secure a boy's idea of feet and inches. He is given a paper and pencil to answer various questions, such as: "How long is this tent?" "How high?" "How far is it to the canoe?" "How high is my hat?" This last is very deceiving. Other helpful questions that have real value as general information may be added, such as: "How long is the canoe?—how wide?" "How many square yards in the mainsail of the boat?" "How wide is a railroad track?" "How many feet wide would a roadway have to be to permit the passing of two touring cars?" "Can you pace off one hundred feet?"

This game may be competitive—the boy winning, of course, who gives the greatest number of correct answers, or it may be a point toward the permission to wear the camp emblem.

Helpfulness and Courtesy

In several camps in New England, points of honor are taken count of, and at the end of the season the boys having the

Digitized by Google

most to their credit are publicly commended and this "Fellowship Point," as it is called, counts toward the winning of the camp emblem or pin. To develop this, various devices may be employed. One is to have the officer of the day in an organized camp make careful note of each unselfish, courteous thing done and report it to the director, who may once a week publicly announce the points due. This will serve to encourage the boys.

Again, on trips—walking or canoeing trips—the counsellor in charge may note the conduct of boys, one to another, or particularly to the people who are encountered en-route. It is very important to instil into a boy's mind the necessity of being courteous to farmer folk or other people met in the country. I always caution boys to remember that they are making the way of subsequent parties of camp or scout boys easy or difficult.

For example, a party of eight boys and a counsellor were going up the Kennebec Valley, and a mile out of town discovered that they had one dollar too much change from the country store. A halt was made at once and a volunteer asked for to go back those two hot, dusty miles. Eight volunteered, and a reputation for honesty and good-breeding was created in that town for any subsequent party who might come from that camp.

Boys from well-conducted camps are instructed to observe the same habits of courtesy and good-breeding toward a farmer's or mountaineer's wife that they would expect toward their mother.

One way to encourage this attitude is to give a party of boys one, two, or three hours in which to report, on their

Digitized by Google

honor, what unselfish, helpful things they have accomplished. They may apply at farm-houses for opportunity to help bring in the night wood, read to one whom they know is ill, go on an errand, write a letter, or do a thousand and one little services.

Once in a small village near a Y. M. C. A. camp I saw two camp boys put down an armful of bundles and jump to the assistance of a shabby, queer-looking old farmer. He was endeavoring to put up the top of his carriage, but had not quite strength to do so.

Shooting the Chute

The accompanying diagram shows a modified water toboggan slide which boys can build in large part themselves with supervision. It affords an amusing way of coasting where there is a high, clear bank on the water's edge. The impetus when the car is released and shoots down will carry it over the surface of the water for a little distance to the great joy of the boy in the car.

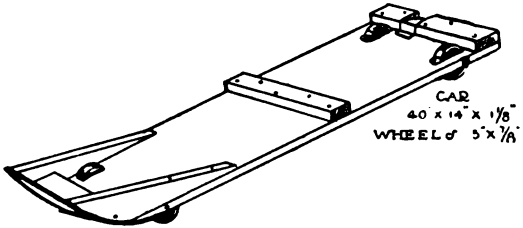
How to Build the Chute

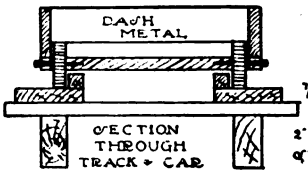
In building the chute use stringers 2 x 4 inches of pine, hackmatack, or oak, placed on edge 18 inches apart. Spike securely on good trestle not farther than 8 feet apart. Elevation 25 feet, incline 80 feet.

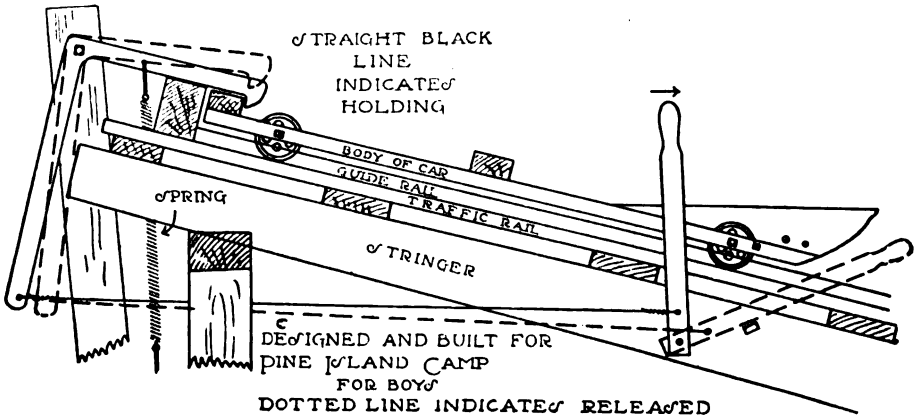
Traffic rails of straight-grained spruce or cypress $4\frac{7}{8}$ inches, dressed on one side, are laid on sleepers 1 x 6 x 18 inches of any good available material. Use eightpenny nails in securing sleepers and rails.

Digitized by Google

CAR AND RELEASE ON SHOOT THE CHUTES







PLAN OF THE CHUTE

Designed by George K. Zehrung

Digitized by Google

Guide rails of spruce or cypress $\frac{7}{8}$ inch square, dressed on four sides, are fastened to the traffic rails and spaced 12 inches apart outside to outside. Bore and countersink for a No. 8 two-inch F. H. B. screw. Start the track on a float level with the surface of the water and curve to line of incline.

The car is made of white pine $1\frac{1}{8}$ x 14 x 40 inches, with three cleats 2 x $\frac{7}{8}$ x 16 inches; the rear cleat is fitted with iron sole for the finger catch of the automatic release. The dash is made of a piece of galvanized iron 10 x 16 inches, edged and rolled. Four wheels, No. 0 Special, Fairbanks & Co., 3 inches in diameter, $\frac{7}{8}$-inch face and $\frac{3}{8}$-inch bore, are secured in mortises in the car by the use of lag screws $\frac{3}{8}$ x $4\frac{1}{2}$ inches, tread 10 inches, wheel base 30 inches.

The automatic release at the top of the clutch is made of a steel angle with arms 16 and 12 x $\frac{3}{8}$ x 1 inches, and is secured to the post with a $\frac{5}{8}$-inch lag screw. The catch is held in place by a coiled steel spring, and is manipulated by means of a wire to the lever, as shown in the drawing.

INDOOR GAMES

Seeing and Remembering

This is practised by having five or six articles on a table and allowing a scout boy five seconds in which to remember as many as he can. It is good practice to remember as many articles as possible in passing a shop window, then passing again and seeing how successful you were.

Up, Jenkins!

is played by dividing the camp into two parties and placing them on opposite sides of a table. One side has a coin

Digitized by Google

which is passed along under the table from hand to hand until, at a given signal from the leader of the opposite side, all hands are elevated and must come down palms open on the table at the same time. Of course, the coin is under one of them, and the opposing side may demand one hand after another up. If the opponents do not guess which one it is under, the coin is still retained by the same side and, *vice versa*, if they do guess it correctly before the last hand is ordered up, the coin goes to the other side of the table and the manœuvre is repeated.

Identification

One indoor game, for rainy days, consists of identification when the identifier is blindfolded.

The campers sit around in a circle, each having a number. One is chosen to be blindfolded, and he stands in the middle. When all is ready he shouts two numbers, and the owners of these numbers must exchange chairs. If the blindfolded one can catch one of those exchanging places, he must identify him. If successful in this, the captured one is blindfolded. The blindfolded one may also slip into a vacant chair if he can find one. At his discretion the one who is blindfolded may shout a word previously agreed upon, as "Boston" or "All change," and every one must change his chair for another. This presents an opportunity for the blindfolded one to slip into a vacant chair. Failure of one in the circle to change places, when called, causes him to forfeit his chair and take the place of the man in the middle of the circle.

Digitized by Google

I Spy!

Part of a rainy day may be pleasantly passed by the following game: All of the campers go out of the room but one, who places a coin or thimble where it is entirely in view but in an inconspicuous place. The campers are assembled, and the hunt for the object begins. As soon as one finds it he goes and sits down, saying nothing—the second one does the same thing until an agreed-upon time has passed. The one who first discovers the thimble now hides it.

Wind-ball

This is a test of lungs, and consists in one side endeavoring to blow a light ball, such as a tennis-ball, across a line into the enemy's territory. Once across the line, it counts a goal, and the ball is returned to the centre of the table again.

Of course, charades, mock trials, and theatricals all go to make up pleasant evenings.

Digitized by Google

Chapter XXI

THE HANDLING OF BOATS

LIVING aboard boats, whether house-boats, sailing-boats, or power-boats, may very well be construed as camping, at least as regards outdoor life and many of the essentials of food and clothing. But obviously it is necessary first to understand the handling of the boat, and this knowledge must be absolutely thorough. There are too many wholly needless boating accidents every summer. A thorough treatment of the whole subject does not belong to this book, but a few principles and bits of advice are offered to campers on the water in this chapter. There are various special books [1] which may be consulted to advantage, but practice and experience under wise direction are always essential.

The A B C of Boats

A boy should know the parts of a boat in a simple way, and this may be learned very quickly. If he lives in a seaport town, like New York or Boston, or in a lake city, like

[1] For example: Harper's *Outdoor Book for Boys; The Landsman*, E. L. Roff; *Navigation Simplified*, C. E. McArthur; and *Elements of Navigation*, W. J. Henderson.

Digitized by Google

Chicago, an old sailor can frequently be found along the water-front who will feel flattered to describe the parts of a boat and its rigging. The parts of a sailing-ship are many and full of long names, but are not beyond the ability of any boy who really loves the sea. Navigation is a technical subject, but worth the study of boys in seaports. The rules of the road or directions regarding right of way in sailing, lights, and fog signals may be learned in an hour.

By applying at the custom-house of any seaport town, or addressing the Bureau of Navigation, Washington, D. C., some very interesting books will be sent free which describe fully every portion of the sea-coast of the United States with relation to light-houses and light-ships. They give full sailing directions and many photographs.

A boy usually begins his boating experience with a small cat-boat or sailing-dory, and in it the principles of sailing are learned as well as in a schooner yacht. "Beating" or going "to leeward," "to windward," "by the wind," "running before it," "close hauled," "running free," "wind aft," "wind abeam," "starboard tack," "port tack," "jibing," "coming about" are all terms that he should learn at once and thoroughly.

There is nothing that will develop quick action and clear thinking in a boy as rapidly as boat-sailing. This is readily seen in studying the races who have been sailormen—the brave Norsemen who crossed the northern Atlantic in small, open boats, and the deep-sea fishermen on our own Atlantic coast. The sea always has and always will develop a hardy, brave, strong race.

The various splices, knots, bends, and hitches used in

Digitized by Google

sailing may be learned from the explanations in Harper's *Outdoor Book for Boys*, where they are fully illustrated.

Masts and Rigging

In setting up a mast in a canoe or in a row-boat, be sure, before starting, that it is firmly "stepped" into place.

Always overhaul the running rigging and see that none of it is "fouled," but that it is all ready to run clear. Have no knots in any running rigging, and always carefully coil up all halliards, so that they will run quickly if necessary.

Never tie the sheet-rope, as the rope holding the mainsail is called. Do not stand on the coil of this rope or permit any one to do so or let baskets or boxes stand on it.

If there is water in a boat, always bail it dry before starting.

If a squall of any seriousness hits you, *lower the sail at once*. Do not attempt to weather a heavy squall by reefing or heading into it.

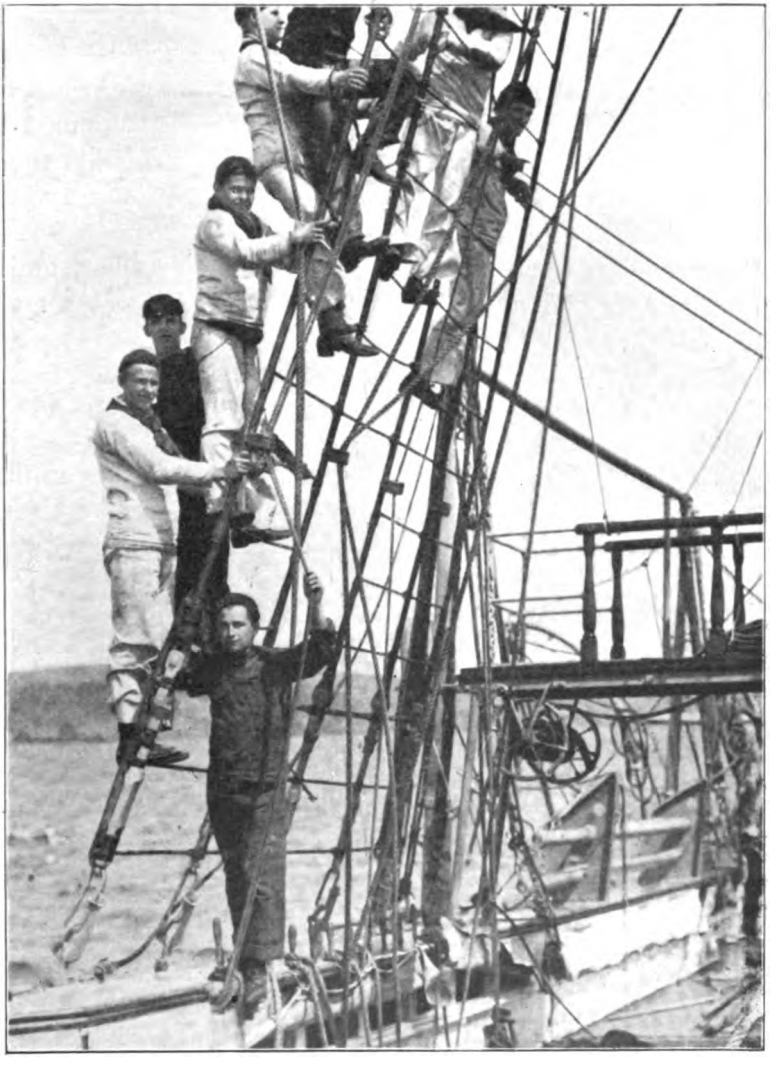
If a rope parts, a sail is torn, a leak started, an oar broken, a mast sprung, or any part of your steering-gear is out of order, *repair it promptly*.

In leaving a boat at night, have it anchored with the sail furled and everything made as snug and tidy as though you expected a gale before morning. Make this a rule, and you will never lose your boat or its rigging.

Anchorage

A mud bottom affords the best anchorage, and a sandy one the poorest. When anchoring, after the anchor has touched

Digitized by Google



BOYS GOING ALOFT FOR SAIL DRILL ON TRAINING-SHIP *NEWPORT*

Digitized by Google

bottom, pay out at least three times as much rope as the boat is long. Give more if the water is very deep or the sea heavy. When anchoring a boat where there is shipping, it is safer to hang out a "riding light" or lantern to avoid being run into. When sailing a boat, keep your attention on your work *all* the time.

Watch a professional sailor at the wheel or tiller, and, though he may be talking, he is *looking* at the sky, water, and his boat practically the entire time.

In sheltered waters much pleasure may be derived from building and living on house-boats. These may be very easily and simply constructed, and some weeks may be pleasantly passed afloat.[1]

For a small and non-capsizable sailing-boat, probably nothing quite equals a catamaran.[1] These boats will sail very fast and are easily handled.

For older and more experienced boys a cruise in a sloop or cat-boat will give an outing full of new and novel attractions. There is an indescribable coziness and homelike feeling when safely anchored in a harbor after a day's sailing which I do not believe is quite equalled by anything else in the world.

Power-boats

Now that every other fisherman's dory is fitted with a little gasoline engine, the art of managing motor-boats of one kind or another is constantly brought to the attention

[1] Harper's *Outdoor Book for Boys* explains the building of house-boats and catamarans.

Digitized by Google

of boys. It is something to be undertaken with care and good guidance, but it is worth while. Only, a boy should learn [1] everything that there is to know, and his prudence should be carefully tested before he is intrusted with the command of a motor-boat, however small it may be.

Camp-yachts

Some organized camps offer regular yachting cruises, where a knowledge of sailing may be gained from men competent to teach it practically.

On these cruises the boys stand watch, and the time is told by bells. Order and discipline are observed, and regular sailor work is done, like steering, laying courses, scrubbing decks, and tending sails.

Nautical Schools

The Y. M. C. A. of New York City affords such a cruise on a ninety-foot schooner yacht at a very moderate cost.

Under the auspices of the Board of Education of New York City there is a nautical school conducted on board the United States steamship *Newport*. This is a training-ship under the command of officers of the United States Navy. There is a sufficient force of regular enlisted seamen to man the ship, but regular seaman's duty is done by the boys on the cruise. During the winter the ship lies at the foot of Twenty-third Street, and regular public-school subjects are

[1] So far as books alone are concerned, Harper's *Machinery Book for Boys* will be found helpful.

Digitized by Google

pursued. In the summer months long cruises are taken to Europe, and on these the boys have an opportunity to learn real seamanship under very efficient guidance. Both sail and steamship work are taught, as the *Newport* is an auxiliary ship. Many of the graduates have taken good positions in the Merchant Marine Service.

Digitized by Google

Chapter XXII

IN CASE OF ILLNESS OR ACCIDENT

IN TREATING WOUNDS there are three general rules to follow:

(a) Stop the bleeding.

(b) Clean the wound.

(c) Keep it clean by dressing.

Wounds may be punctured, like a stab or bullet wound, incised, cut and lacerated, or torn and scraped.

In dressing a punctured wound, remember that bits of clothing, thread, etc., may have been drawn into the wound, and be careful to remove them.

TO CONTROL THE BLEEDING of wounds, three measures may be employed:

(1) Direct pressure of a finger or compress on the wound.

(2) Pressure on the blood-vessels by a tourniquet. This is made by placing a compress—some folded cloth—above the wound in the case of an artery, or below, in case of a vein, passing a handkerchief or strip of cloth around the compress, fastening the ends to a stick and twisting tight. Or tie a bandage and compress around the limb above or below the wound as indicated, put a stick under the bandage and twist. Of course, the strongest pressure is to be applied upon the artery or vein itself.

Digitized by Google

(3) By the use of very hot or very cold water.

To Clean a Wound, it is a good plan to permit it to bleed freely for a few seconds, since the blood will wash out impurities. Then it may be bathed freely with clean warm or cold water. Soap or ether may be used to remove grease. A clean handkerchief or any freshly laundered linen can be used here.

To Keep a Wound Clean.—After arresting the bleeding it may be washed with a solution of bichloride of mercury (1-1000 strength). This is made by adding one of the tablets, which should be in the camp medicine-chest, to one quart of water.

Peroxide of hydrogen, also useful in camp, may be applied directly to a wound or diluted one-half strength with water. This antiseptic has the advantage of also checking bleeding.

To Dress a Wound.—After the bleeding has been checked or controlled, any clean, fresh-laundered linen or cotton may be applied. In using a handkerchief or sheet apply the part that has been *folded in*. This will be free from dust. Sterile gauze may be purchased by the yard in boxes. This is best. Do not put cotton *directly* on a wound if it can be avoided—place the cotton *over* the other dressing.

Draw the edges of a wound together with sticking-plaster or surgeon's plaster. If this cannot be done, *sew* it together, placing stitches one-quarter to one-half inch apart. An ordinary needle may be used, and silk or hair from a horse's tail may be used as thread. These must be boiled or soaked in an antiseptic solution. Take stitches far enough away from the *edge* of the wound to prevent tearing out. Tie each stitch separately.

Digitized by Google

When Dressing Wounds.—(1) Always wash your hands thoroughly before touching any materials for dressing.

(2) Clean carefully any scissors, needles, and knives that are to be used. If possible, boil them before using.

In Case of Burns the application of oil, baking-soda, flour, or starch will check the smarting and pain. All these except the oil are spread on in a thin paste made with water.

"Carron Oil" is an ideal dressing for almost any burn. It is made of equal parts of linseed-oil and lime-water. Always shake the bottle before using. Saturate a piece of cloth with it. If blisters have been formed, open them by slitting their whole length. Do not remove the skin, but dress as in the case of any wound.

If there is Persistent Bleeding from the Nose, try holding the head far back and taking long, deep breaths in through the nose, expelling through the mouth. Or one may snuff very cold water up the nostrils, or vinegar and water, or hydrogen peroxide. If this fails, plug the nostrils with cotton or gauze. Pressure on the upper lip just under the nostrils will frequently check bleeding.

A Simple Fracture occurs when a bone is broken wholly or partly across without laceration of the skin.

A Compound Fracture is one where the bone protrudes through the skin. Two-thirds of all fractures are in the limbs. The skull and spine are rarely broken.

The bones most frequently broken are the collar-bones and the forearm bones.

Signs of Fracture.—(1) Pain of a sharp character in one spot. This is increased by pressure.

(2) *Crepitus:* The sound, and in a sense the feeling of

Digitized by Google

roughness, produced when the ends of the broken bones grate against each other.

(3) Swelling, redness, and heat.

(4) False point of motion or a bending where there should be none.

Treatment.—In making an examination, be quiet, cheerful, and systematic. Do not rush at the sufferer, and do not seize his bones roughly. Make sure that it is not a dislocation. To remove clothing cut on the seams very carefully.

Always compare the two sides of the body—the injured with the uninjured member.

Set the bone as well as you can, and then apply some firm dressing to keep it in place. Splints may be made of cigar-boxes, cardboard, paddles, or almost any firm material that will support the limb. A pillow bound about a limb will make a temporary splint. Remember in applying a splint always to pad it. This may be done by using cotton, hay, straw, grass, or soft rags. Now, having carefully arranged the padding on the splint, place it over the broken bones and bandage firmly into place. Never put ice or ice-water over a broken bone. Remove the dressing after four or five days to see if the bone is in place.

DISLOCATIONS.—The most frequently dislocated bone in the body is at the shoulder joint.

Symptoms.—I. Local pain of a dull, sickening character.

II. Head of bone felt in a new place.

III. Loss of function and power.

IV. Altered appearance of joint.

Treatment.—This, roughly speaking, is to manipulate the bone until it can be forced into its socket. A finger can be

Digitized by Google

very readily pulled back into place. If bloody and slippery, rub sand or ashes on it. As the shoulder joint is the most frequently dislocated bone, a special description of that will be given. To force it back into its socket, place the patient on his back, sit by the injured side, take your shoe off the foot that is nearer the patient, place the foot in his arm-pit, grasp the hand and wrist in both your hands, and pull steadily as hard as you can in a direction toward your own body without relaxing your pull. Swing this arm forward over his body. The bone can be distinctly felt by the patient and attendant if it slips back into place. If not successful, try again and pull harder.

There is no special hurry about setting a fracture, but a dislocation must be attended to as soon as possible.

SPRAINS.—The symptoms of a sprain are like those of dislocations, except that no bone is found out of place. The tendons, ligaments, muscles, and blood-vessels around the joint are torn or stretched. Pain results from this unnatural stretching.

Treatment.—Immerse the limb in water as hot as can be borne. As the patient becomes accustomed to this water, make it hotter and hotter. If hot water is not obtainable, shower the limb with cold water. The complete success of this treatment is dependent on the length of time the limb is immersed and the temperature of the water. After drying, apply a rubber bandage and pour hot witch-hazel or a lead-and-opium wash on the dressing. Elevate the injured part, and the pain will be less.

DROWNING.—Take the patient out of water at once. In carrying the patient, always do so with the head hanging

Digitized by Google

down, so that the water may have a chance to run out. Place your hands underneath the abdomen and hold him up for a minute until all the water has run out. Then place him on his back.

Be sure there is no mucus, seaweed, or other material in his throat that will prevent the air rushing in.

See that his tongue has not fallen back into throat. If it has, pull forward and have an assistant hold it with a handkerchief wrapped around or put a pin through it with the ends resting against the teeth.

ARTIFICIAL RESPIRATION.—Lay the patient on his back, grasp his arms above his elbows, and draw them straight above his head until his hands touch the ground back of him. Pull steadily and firmly in that direction, counting one, two, three. Then quickly bring his arms down to his chest *at the sides* until you have counted three.

The first motion is an attempt at respiration; the second, expiration. Repeat these two motions twelve to sixteen times a minute until an hour has passed, or until he breathes naturally. In the excitement of the moment it may be done too hurriedly, and it is well to time yourself by a watch.

Having an assistant press upon the lower ribs when the arms are elevated over the head is an additional measure that helps, also the tongue may be pulled out fifteen or twenty times a minute.

At the time of the *Slocum* disaster in New York, a girl was in the water more than three-quarters of an hour. She was supposed to be dead, and had been dragged ashore behind a launch, and yet she was revived by artificial respiration.

Digitized by Google

It is not wise to jump into the water after a person if it can be avoided. Drowning persons fight blindly for life, and may grapple the rescuer and drown both. Use a boat, if possible, and throw out an arm of a coat or sweater if consciousness remains. If compelled to jump into the water throw your left arm around the person to be rescued with his back to your side. Hold him so that he cannot grapple you with his arms or legs. If he should succeed in seizing you, take a long breath and sink, pushing him away by placing your feet against him.

UNCONSCIOUSNESS.—This may be due to faintness, poisoning by carbolic acid, alcohol, gas, or opium (soothing syrup, paregoric, morphine, codein, heroin, and some cough mixtures), epileptic fits, apoplectic fits, and sunstroke.

The table on page 294 indicates some of the usual causes of unconsciousness, and the characteristic symptoms.

TREATMENT:

Fainting.—Lower head, loosen clothing, plenty of fresh air, keep the crowd away, rubbing, give stimulants.

Epilepsy.—Keep patient quiet; prevent him from banging his head or injuring himself; loosen collar; if he is biting tongue, place something between his teeth like a towel, etc. Do not break the grip of hands.

Apoplexy.—Do not lower head—elevate it; ice to the head and hot water to feet; move bowels freely; keep quiet and do not give stimulants.

Opium.—Keep the patient awake; tickle the throat with a feather to produce vomiting; give hot coffee and stimulants.

Alcohol.—Emetics; hot, black coffee, aromatic spirits of ammonia; rub to get warm.

Digitized by Google

SOME COMMON CAUSES AND SYMPTOMS OF UNCONSCIOUSNESS

	FAINT	OPIUM	ALCOHOL	EPILEPSY	APOPLEXY	SUNSTROKE
Face	Pale.	Flushed. (Later pale)	Cold and clammy.	Pale.	Flushed on one side.	Flushed and hot.
Pulse	Rapid.	Slow.	Weak.	Rapid.	Slow—full.	Rapid and weak.
Respiration ..	Shallow.	Slow.	Shallow.	Rapid.	Slow—snoring.	Shallow and hurried.
Paralysis.....	None.	None.	None.	None.	One side paralyzed.	None.
History	No injury.	Taking some drug.	Odor.	Falls with a sharp cry. Bites tongue. History of previous attacks.	Sudden fall without any injury.	Exposure to sun. Possibly a previous attack.
Eyes	.....	Pupils very small—pin-point.	Dilated or normal.	Dilated equally.	Unequally dilated. Rare under forty years of age.	Usually contracted. Vomiting common. Sometimes convulsions.

Digitized by Google

Sunstroke. — Remove to shade; fan constantly; ice to head and wrists; if temperature remains above 101 put the patient in tub of cold water; watch pulse, and if it is feeble give stimulants while *in* the bath.

Carbolic-acid Poisoning.—The symptoms are sudden intense pains in abdomen following the drinking of something. Mouth and lips white. Odor of carbolic acid about patient. In some cases, unconsciousness.

Wash out mouth with pure alcohol. Give large doses at once of Epsom salts in water. Follow up with milk, cream, raw eggs, sweet-oil or olive-oil, giving half a teacupful.

Ptomaine Poisoning is usually caused by eating tainted meat or fish.

The symptoms are pain in about one to two hours after eating, vomiting, headache, fever, sometimes a rash.

Administer castor-oil or Epsom salts. If this is vomited, one-tenth grain calomel every twenty minutes for ten doses.

Give no food for ten hours, then light, easily digested nourishment.

Electric Shocks.—Put on rubber gloves or thrust your hands inside rubber shoes and pull patient away from contact. Artificial respiration and stimulants.

MEDICAL HINTS:

Emetics.—Mustard-water—teaspoonful to a pint of lukewarm water; salt water; soap and water; tickling the throat with feather or a finger.

Antiseptics.—Corrosive sublimate; a solution of bichloride of mercury (1-1000), one tablet added to one quart of water.

Digitized by Google

Scissors or knives may be rendered sterile by boiling ten minutes actively or soaking in pure alcohol.

Water may be sterilized by boiling five minutes.

Padding may be made of hay, straw, grass, cotton, hair from mattress.

HEALTH HINTS:

Toothache.—Apply a hot raisin or oil of cinnamon.

Snake Bite.—Suck the wound and spit it out. The poison will not hurt you in this way. Tie something around the limb ABOVE the wound to prevent the poison entering the body. Give dilute ammonia internally or whiskey. The wound should be freely cut around the bite and a solution of permanganate of potassium poured into the wound. This may also be injected around the wound hypodermically. Use three-fourths water to the crystals in making solution.

Frost Bite.—Rub in cold water or snow.

Cold.—Put on all the sweaters and heavy clothing you have and get up a sweat. Throw a hot rock in a bucket of cold water and inhale the steam.

Sore Throat.—Wrap a pork rind around throat or a piece of flannel. Gargle with hot salt water.

Headache.—Lie down in a cool place and put cool cloths on forehead if hot weather, and hot cloths if cold weather.

Constipation is a common thing in camp; look out for it. Coarse bread, fruit if possible, plenty of good drinking-water are helpful. Diet and exercise are better than medicine. If necessary, castor-oil is recommended.

Cramps.—Take some hot ginger-tea and put something hot on the abdomen.

Digitized by Google

Diarrhœa.—The eating of cheese or chewing of starch may be helpful. Sun cholera mixture is worth trying, or a quarter of a grain of powdered opium in milk, or, if available, small doses of blackberry brandy administered cautiously under competent direction.

Digitized by Google

Digitized by Google

Part V

BOY SCOUTS

Digitized by Google

Digitized by Google

Chapter XXIII

THE BOY SCOUTS OF ENGLAND

ONE of the commonest sights in England, on a Saturday afternoon especially, is that of groups of boys clad in khaki, with loose flannel shirts, knickers, bare knees, cowboy hats, haversacks, and long staffs. They look like a cross between toy soldiers, juvenile football-players, and miniature mountaineers. You will come across them in spring, summer and autumn on nearly every open space or public common, playing their esoteric games. In summer and during the holidays you may find them camping out, clambering up mountains, plunging into woods, giving public exhibitions of their skill. I had often noticed them in the past year or two marching in patrols of seven or eight through the streets of London with a military swing and precision, and their briskness and cleanness and intentness, their politeness if one stopped to question them, had repeatedly struck my fancy.

Organizing the Boy Scouts

These martial-looking youngsters are the Boy Scouts of England, and the credit for their existence as an organiza-

Digitized by Google

tion belongs to Lieutenant-General Sir Baden-Powell. "B-P"—to give him the name by which he is known all over the empire—is himself one of the ablest officers and quite the ablest scout in the British army; and his spirited and ingenious defence of Mafeking was one of the brightest incidents of the Boer War. It was during the siege of Mafeking that the first corps of Boy Scouts was organized. "B-P's" chief staff-officer, Lord Edward Cecil, got together the boys in the village, put them in uniform, drilled them, and used them for carrying orders and messages, keeping lookout, and acting as orderlies and so on — thus adding to the strength of the firing-line by releasing the grown-up men who had hitherto been employed on these duties.

At the end of 1907[1] "B-P," in a series of lectures in different parts of England, suggested that scouting should be taken up by the various societies and organizations that concerned themselves with the welfare of boys. The idea met with a success so immediate and widespread that in order to give the movement a general uniformity a new organization, called the Boy Scouts, with permanent headquarters and an official staff, had to be formed. Recruits have continued to pour in, and there are to-day probably 150,000 Boy Scouts in Great Britain alone, and as many more in other parts of the empire.[2]

[1] Mr. Daniel C. Beard's American organization, "The Sons of Daniel Boone," of which scouts and scouting were an important part, was organized in 1905.

[2] Notably in Canada. While Mr. Brooks's history of the movement is of value to all who are concerned with the scout idea, it will be of peculiar interest to Boy Scouts in Canada.

Digitized by Google

The English Scouts' Oath

So much for the history of the movement. Now for its spirit and workings. Any number of boys, between the ages of ten and eighteen, may agree to enroll themselves as Boy Scouts, paying two cents a week each to the common fund. But before being allowed to join the organization every boy must pass certain tests. He must know the Scouts' laws and signs and salute; he must know the composition of the Union Jack and the right way to fly it; and he must know how to tie four common knots. If he passes these tests he is permitted to take the Scouts' oath. The oath is as follows: "On my honor I promise that I will do my best (1) to do my duty to God and the King; (2) to help other people at all times; (3) to obey the Scout law." The Scouts' motto is "Be Prepared," and the recruit is informed that this means that he must always be in a state of readiness in mind and body to do his duty; that he must have disciplined himself to be obedient to every order, and must have thought out beforehand any accident or situation that might occur so that he will *know* the right thing to do at the right moment; and that he must train his body in strength and activity so that he will be *able* to do it.

The Scout Law

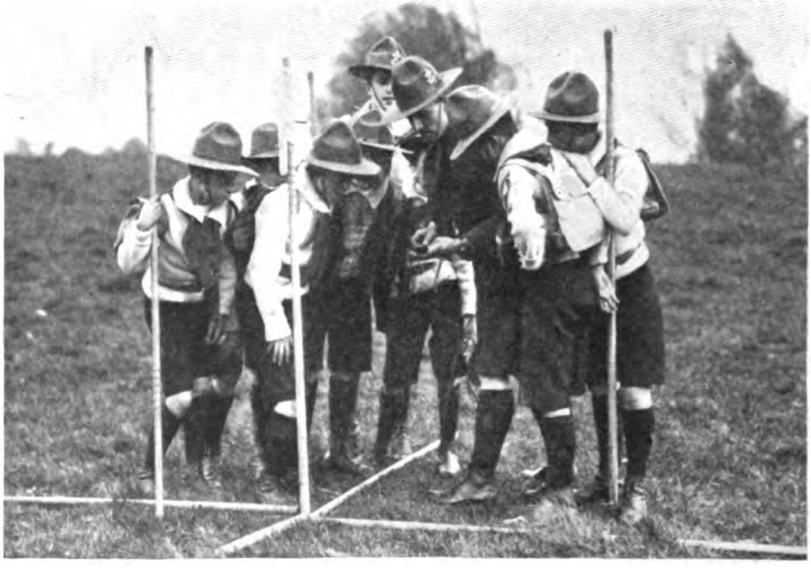
The Scout law is comprised in nine articles:

(1) *A Scout's Honor Is to Be Trusted.*

Digitized by Google

(2) *A Scout Is Loyal to the King*, and to his officers, to his parents, his country, and his employers.

(3) *A Scout's Duty Is to Be Useful and to Help Others.*



STUDYING THE COMPASS, A CARDINAL POINT IN THE BOY SCOUT'S EDUCATION

(4) *A Scout Is a Friend to All and a Brother to Every Other Scout.*

(5) *A Scout Is Courteous.*

(6) *A Scout Is a Friend to Animals.*

(7) *A Scout Obeys Orders* of his parents, patrol leader, or scoutmaster without question.

(8) *A Scout Smiles and Whistles* under all circumstances.

(9) *A Scout Is Thrifty.*

Digitized by Google

Patrols and Troops

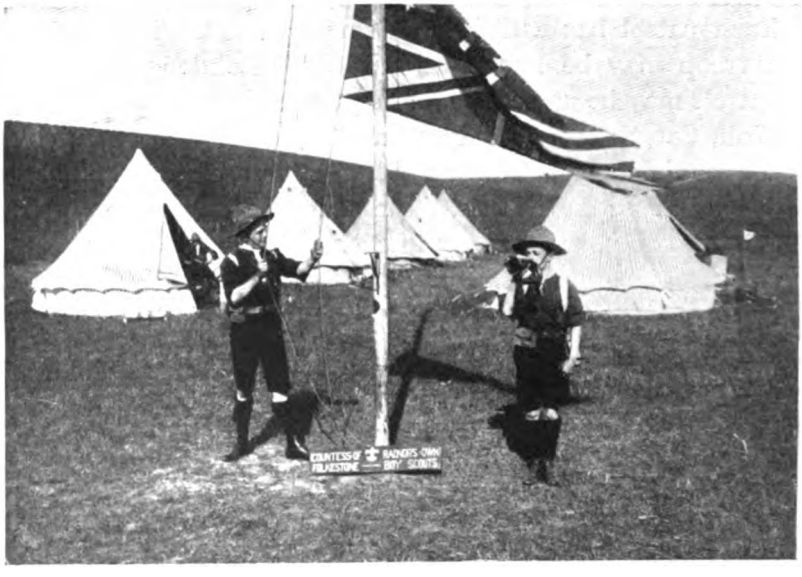
Such is the law which each scout binds himself to observe. A patrol consists of a patrol leader, corporal, and six or eight scouts, and three patrols are sufficient to form a troop. Each patrol has a different name and call. Thus, while a troop may be known as the Sixth London Troop, its patrols may be named, supposing there to be three of them, Wolf, Cat, and Bull, and an imitation of the cries made by these animals would form a secret call among the members of the respective patrols. The patrol leader and corporal are the two smartest boys in each patrol; if they are also the oldest, so much the better. At the head of the troop of three or more patrols is the scoutmaster, who must be over twenty years of age, who can enroll scouts and discharge them, and in whom are vested very considerable powers of discipline. The scouts forming a troop are expected to provide themselves with a uniform and equipment, though those who cannot afford to do so are allowed to dress as they please. They hire a club-room, or one is lent or given to them by local sympathizers, the scouts themselves doing the cleaning and decorating, and sometimes even making the furniture. It is in the club-room that the scoutmaster instructs the boys in their business both by little lectures and by practical demonstrations, and expounds to them the meaning of the Scout law.

Tests

On becoming a member of a patrol a boy remains for one month on probation as a "tenderfoot." He is only awarded

Digitized by Google

the second-class scout's badge after passing the following tests: (1) Elementary knowledge of first aid and bandaging; (2) signalling, elementary knowledge of semaphore or Morse alphabet; (3) tracking half a mile in twenty-five minutes;



REVEILLE AT THE CAMP AT FOLKESTONE—WHERE CÆSAR ALSO CAMPED

or, if in a town, describing satisfactorily the contents of one shop-window out of four, observed for one minute each; (4) going a mile in twelve minutes at "scouts' pace"; (5) laying and lighting a fire, using not more than two matches; (6) cooking quarter of a pound of meat and two potatoes without cooking utensils other than the regulation billy; (7) having at least sixpence in a savings-bank; (8) knowing the sixteen principal points of the compass. To obtain

Digitized by Google

a first-class scout's badge a boy must in addition be able to swim fifty yards—unless the doctor forbids it; to show that he has a shilling in the bank; to send and receive a message either in semaphore or Morse at the rate of sixteen letters a minute; to go on foot to a point seven miles away and return and write a report on the journey; to describe or show the proper means of saving life in case of fire, drowning, sewer gas, runaway carriage; to cook satisfactorily two selected dishes, or skin and cook a rabbit, or pluck and cook a bird; to read a map correctly and draw an intelligible rough sketch map; to point out a compass direction without the help of a compass; to judge distance, size, numbers, and height within twenty-five per cent. error; to use an axe for felling or trimming light timber, or, as an alternative, to produce an article of carpentry, joinery, or metal-work made by himself satisfactorily, and to bring a tenderfoot trained by himself in the points required for a tenderfoot.

This sounds a formidable list of accomplishments, but it is astonishing how quickly boys master them and how eager they are to go and win the extra badges awarded for special proficiency. Thus, to gain the ambulance badge, a boy must know the proper fireman's way of lifting or dragging an insensible person, must be able to improvise a stretcher and fling a life-line, must show the position of the main arteries, must demonstrate how to stop bleeding from vein or artery, must prove that he can improvise splints, diagnose and bind a fractured limb, must show how to induce artificial respiration, must be able to bandage an injury, must show how to deal with choking, burning, poison, or grit

Digitized by Google

in the eye, and must have a satisfactory general knowledge of the laws of health and sanitation.

Badges

The most coveted badge of all, perhaps, the stalker's badge, is only awarded if a scout can produce a series of twenty photographs of wild animals or wild birds taken from life and developed or printed by himself; or if he has dried, mounted, and correctly named sixty species of wild flowers, ferns, or grasses; or if he has done colored drawings of twenty flowers, ferns, or grasses, or twelve sketches from life of animals or birds; or if he is able to name sixty different kinds of animals, insects, reptiles, or birds in a museum or zoological garden, and give particulars of the lives and habits, appearance and markings of twenty of them. For the pioneer's badge a scout must prove his ability to fell a nine-inch tree or scaffolding pole, neatly and quickly; to tie eight kinds of knots quickly in the dark or blindfolded; to build a model bridge or derrick; to lash spars properly together for scaffolding; to make a camp kitchen; and to build a hut suitable for three occupants. For the signaller's badge a scout must pass tests in both sending and receiving messages in semaphore and Morse at twenty-four letters per minute; must give and read signals by sound; must make correct smoke and flame signals with fire; and must be able to give the proper signals, as in infantry training, to show the presence of the enemy. The seaman's badge can only be won by a boy who can tie eight knots rapidly in the dark or blindfolded; fling a rope coil;

Digitized by Google

row a boat single-handed, punt it with a pole, scull it over the stern, steer it when rowed by others, bring it alongside properly and make it fast; box the compass and read a chart; state direction by the stars and sun; show weather wisdom and knowledge of the tides; swim fifty yards with trousers, socks, and shirt on; climb a rope or pole of fifteen feet; sew and darn a shirt and trousers; understand the general principle of marine engines and steam or hydraulic winch; and name the different national flags and rigs of sailing-vessels and classes of men-of-war. To gain the cyclist's badge a scout must be able to repair punctures, etc., read a map, repeat correctly a verbal message, and

THE CLOSE OF A DAY'S MANŒUVRES

sign a certificate showing that he owns a bicycle in good working order and is willing to use it in the service of the government in case of emergency, for carrying despatches, etc. A boy who wishes to win the marksman's badge must

Digitized by Google

score not less than 114 points in thirty shots, and must show himself a good judge of distance on unknown ground; and the badge of master-of-arms is given to a scout who shows proficiency in three out of these six subjects—single stick, boxing, jiu-jitsu, wrestling, quarter-staff, and fencing. Besides these badges, medals are also awarded (1) for saving life at risk to one's own; (2) for saving life or helping to save life without risk to self, but where life might have been lost; and (3) for meritorious service, assisting the police at personal risk, or for twenty various good deeds, such as stopping a runaway horse, helping at a fire, etc.

It will be seen from all this that the Boy Scout movement fetches a wide compass. A week of camping-out when all the arrangements have to be made by the boys themselves —the site selected, the tents pitched, the food provided and cooked, and so on—is an education in itself in common-sense, competency, discipline, and love of nature. So, too, with all the other arts and accomplishments of the boy scouts—the tracking, the lessons in observation, the signalling, the woodcraft, the seamanship—actual demonstration and participation are the basis of them all.

Digitized by Google

Chapter XXIV

THE BOY SCOUTS OF AMERICA[1]

IN starting the Boy Scout idea, General Baden-Powell emphatically stated that his intention was not the making of soldiers, but of citizens. In planning for the work he drew largely from all sources, and there has hardly been a book written on boyhood that has not been forced to contribute something to the movement. He drew more fully on the works of Ernest Thompson Seton, of the Woodcraft Indians, and Dan Beard, of the Boy Pioneers, or Sons of Daniel Boone, so that, even if the movement was started in England, its principles and fundamentals were produced on American soil.

All over this continent the Boy Scout idea is springing into instantaneous favor, and groups of boys are being organized in the larger and smaller cities of the United States and Canada. Toronto has become a Scout city, and it is no uncommon sight to see from twenty to thirty Scout encampments on its outskirts. Paterson, New Jersey; Springfield, Massachusetts; Utica, New York; Chicago, San Francisco, and a host of other places have seen patrols and troops of Scouts spring up spontaneously. Cities such as Cleveland,

[1] By the courtesy of John L. Alexander and the *Sunday-School Times*.

Digitized by Google

Detroit, New York, and others are now forming city-wide committees to guide this new movement.

Who Directs the Movement?

Headquarters for the movement have been opened at the Fifth Avenue Building, New York City, a managing secretary and field secretary have been engaged, and national, State, and local committees are now in process of formation. The

PARADE OF BOY SCOUTS

idea which is to be followed in this country is a slow but sure growth, the leaders of the movement being determined to benefit by all the mistakes that have been made by their English brethren. Prominent business men and our leading

Digitized by Google

educators have gotten behind the movement, and a great popular organization that needs but little equipment is now sweeping our country for the purpose of the recreational education of the boyhood of America. At the present time a committee on organization is directing the movement, this committee being made up of representative men from the various agencies at work among the boys of America. Such men as Ernest Thompson Seton, the author and naturalist; Lee F. Hanmer, of the Playground Association of America; George D. Pratt, of Pratt Institute; Dr. Luther Halsey Gulick, of the Russell Sage Foundation; Jacob A. Riis, of the Settlement movement; Dan Beard, of the Sons of Daniel Boone; Edgar M. Robinson, of the Boys' Work Committee of the International Young Men's Christian Association; Colin H. Livingstone, of Washington, D. C., and W. D. Boyce, the Chicago publisher, are now grappling with the question of national organization as well as giving their attention to the executive direction of the work in the field.

The progressive and educational value of the Boy Scouts may be readily understood by a little thought of the scope of the badges of merit, which are achieved by passing certain definite tests in the various subjects. Thus, to gain the ambulance badge, he must be able to know the firemen's lift, how to drag an insensible man with ropes, how to improvise a stretcher, how to fling a life-line, the position of the main arteries, how to stop bleeding, whether internal or external, how to improvise splints and to bind a fractured limb. He must also know the Schaefer (latest) method of artificial respiration, how to deal with choking, burning, poison, grit in the eye, sprains and bruises, and the general laws of health,

Digitized by Google

including the danger of smoking, incontinence, lack of ventilation and cleanliness. Besides the other thirty-four badges of merit and the other requirements, a boy must pass through three stages, or degrees, before he can become a First-class Scout, and so be able to pass his tests for the merit badges. To become a Tenderfoot he must pass a test in the following points before taking the oath:

What a Boy Must Do to Belong

Know the Scout's laws and signs and salute.

Know the composition of the national flag and the right way to fly it.

Tie four out of the following knots: Reef, sheet-bend clove hitch, bowline, middleman's, fisherman's, sheepshank.

He then takes the Scout's oath, and is enrolled as a Tenderfoot, and is entitled to wear the buttonhole badge.

Before being awarded the Second-class Scout's badge a Tenderfoot must pass the following tests:

1. Have at least one month's service as a Tenderfoot.
2. Elementary first aid and bandaging.
3. Signalling, elementary knowledge of semaphore or Morse alphabet.
4. Track half a mile in twenty-five minutes; or, if in a town, describe satisfactorily the contents of one shop window out of four, observed for one minute each.
5. Go a mile in twelve minutes at "Scout's pace."
6. Lay and light a fire, using not more than two matches.
7. Cook a quarter of a pound of meat and two potatoes without cooking utensils other than the regulation billy.

Digitized by Google

8. Have at least twenty-five cents in a savings-bank.

9. Know the sixteen principal points of the compass.

Before being awarded a First-class Scout's badge a Scout must pass the following tests, in addition to the tests laid down for Second-class Scouts:

1. Swim fifty yards. (This may be omitted where the doctor certifies that bathing is dangerous to the boy's health,

AN AMBULANCE CORPS

in which case he must run a mile in eight minutes, or perform some equivalent selected by the Scoutmaster.)

2. Must have fifty cents at least in the savings-bank.

3. Signalling. Send and receive message either in semaphore or Morse, sixteen letters per minute.

Digitized by Google

4. Go on foot, or row a boat, alone, to a point seven miles away and return again; or if conveyed by any vehicle or animal, go to a distance of fifteen miles and back, and write a short report on it. It is preferable that he should take two days over it.

5. Describe or show the proper means for saving life in case of two of the following accidents (allotted by the examiners): Fire, drowning, runaway carriage, sewer gas, ice-breaking, or bandage an injured patient, or revive an apparently drowned person.

6. Cook satisfactorily two out of the following dishes, as may be directed: Porridge, bacon, hunter's stew; or skin and cook a rabbit, or pluck and cook a bird. Also make a "damper" of half a pound of flour, or a "twist" baked on a thick stick.

7. Read a map correctly, and draw an intelligible rough sketch map. Point out a compass direction without the help of a compass.

8. Use an axe for felling or trimming light timber, or, as alternative, produce an article of carpentry or joinery or metal-work made by himself satisfactorily.

9. Judge distance, size, numbers, and height within twenty-five per cent. error.

10. Bring a Tenderfoot trained by himself in the points required for a Tenderfoot.

The Guide of the Scout

The guide of the Boy Scout is laid down in the nine points of the Scout Law. [These and other requirements are ob-

Digitized by Google

viously practically the same in America as in England, except for the allegiance in the second clause of the Law and a few other points. But Mr. Alexander's explanations are added here.]

1. A Scout's honor is to be trusted. If a Scout were to break his honor by telling a lie, or by not carrying out an order exactly when trusted on his honor to do so, he may be directed to hand over his Scout badge, and never to wear it again. He may also be directed to cease to be a Scout.

2. A Scout is loyal to his country, his officers, his parents, and his employers. He must stick to them through thick and thin against any one who is their enemy or who even talks badly of them.

3. A Scout's duty is to be useful and to help others. He must be prepared at any time to save life or to help injured persons. And he must try his best to do a good turn to somebody every day.

4. A Scout is a friend to all, and a brother to every other Scout, no matter to what social class the other belongs.

A Scout must never be a snob. A snob is one who looks down upon another because he is poorer, or who is poor and resents another because he is rich. A Scout accepts the other man as he finds him, and makes the best of him.

5. A Scout is courteous. That is, he is polite to all, but especially to women and children, and old people and invalids, cripples, etc. And he must not take any reward for being helpful or courteous.

6. A Scout is a friend to animals. He should save them as far as possible from pain, and should not kill any animal unnecessarily. Killing an animal for food is allowable.

Digitized by Google

7. A Scout obeys orders of his parents, patrol leader, or Scoutmaster without question. Even if he gets an order he does not like, he must do as soldiers and sailors do—he must carry it out, all the same, because it is his duty; and after he has done it he can come and state any reasons against it; but he must carry out the order at once. That is discipline.

8. A Scout smiles and whistles under all circumstances. When he gets an order he should obey it cheerily and

SCOUTS IN AMBUSH

readily, not in a slow, hang-dog sort of way. Scouts never grumble at hardships, nor whine at one another, nor swear when put out. The punishment for swearing or using bad language is for each offence a mug of cold water to be poured

Digitized by Google

down the offender's sleeve by the other Scouts. It was the punishment invented by the old scout Captain John Smith three hundred years ago.

9. A Scout is thrifty; that is, he saves every penny he can and puts it in the bank, so that he may have money to keep himself when out of work, and thus not make himself a burden to others; or that he may have money to give away to others when they need it.

This law of the Scouts is a modern interpretation of the old vow of knightly chivalry which is interpreted so beautifully in the "Idylls of the King" and the boys' orders of the Knights of King Arthur and the Knights of the Holy Grail, only, instead of dealing with a language of a by-gone age, the law is couched in modern, up-to-date phraseology.

The headquarters of the Boy Scouts of America, which are located at the Fifth Avenue Building, are available for any information about the Scout movement. The secretaries of the Scout movement are ready to give their advice and help to any Sunday-school for the organization of a local movement. Small pamphlets for free distribution have been prepared and will be sent to any address on receipt of a postal-card.

Digitized by Google

Chapter XXV

TRAINING IN SEEING CLEARLY

BEFORE a boy goes on a camping or scouting trip it would be wise for him to train his "scouting" powers. Often the term is heard in homes or on the street, "Ah! he is a good scout!" And what does it mean? It should mean that he can not only row, sail, paddle, swim, tramp, and make camp, but that he has also keen powers of observation; that he knows from the appearance of a dry streambed in which direction the water ran; that he will read a track quickly; that he will know that an Indian toes in and a white man toes out; that a bear track looks like a human barefoot track, with some slight difference. These are a few of the points which an American boy should know whether he is a member of any organization or not.

Learn to Observe

He should tell at once the drum-drum of a partridge's wings, the taps of a woodpecker, the chatter of a squirrel, the call of a bird, and how rapidly a bird can fly. He should know the kinds of clouds, and what they indicate or foretell; the direction of the wind—in a general way its force; and how to predict storms. He should know how to read storm

Digitized by Google

signals, weather flags, and the different flags on ships that are seen flying at various parts of the rigging and masts.

He should quickly discover any strange appearance about his home or street, as the escape of water into walls or under sidewalks; the smell of smoke or something burning.

The famous old hunters and scouts, like Daniel Boone or Kit Carson, had marvellous powers of observation. A falling leaf, a bent twig, or a crushed plant caught their attention at once.

There are many excellent opportunities for boys in cities and towns to train their "scouting" powers.

Begin at home, and let nothing be too small to observe as a means of preliminary training. I have sometimes sent boys away on trips for twenty-four hours, and then upon their return asked each one separately to describe what he saw and where he went. The good scout sees things that the poor or careless one continually overlooks. Go up on the roof, note the clouds—the varieties according to the names in the physical geography, and the descriptions on page 323; study their general drift and estimate their speed. After a heavy wind-storm the "guess" may be verified by reading the daily papers which print accounts of wind velocity.

Do you know how many church spires may be counted from your roof? How many public buildings? Can you sit in your room and point north, south, east, or west with any correctness? Do you know at what hour the sun rose and set on the day that you read this page? Do you know at what hour it rose in London and in San Francisco, and why there is the difference in time?

Even the back yard of a city house will many times hold

Digitized by Google

treasure-houses for the keen scout. The flowers, leaves, and insects are all interesting. A colony of ants will form a whole chapter of achievements. The scout boy may well sit down quietly for half an hour and watch them dig and carry their huge burdens, or watch a spider spin his web.

The parks offer many opportunities for the city scout boy to observe the ways of birds and animals. Every one should know at least twelve trees, and also twelve birds by sight and note.

WEATHER SIGNALS

I. A square white flag alone indicates fair weather, stationary temperature.

II. A square blue flag alone indicates rain or snow, stationary temperature.

III. A square flag, half blue and white, alone indicates local rain, stationary temperature.

No. I with a black triangular flag above it indicates warmer, fair weather.

No. I with a black triangular flag below it indicates colder, fair weather.

No. II with a black triangular flag above it indicates warmer weather and snow or rain.

No. II with a black triangular flag below it indicates colder weather and snow or rain.

No. I with a square white flag with black centre indicates a cold wave.

UNITED STATES SIGNAL SERVICE

Northwest winds: White pennant above red flag, black centre.

Digitized by Google

Northeast winds: Red pennant above red flag, black centre.

Southeast winds: Red flag, black centre, above white pennant.

Southwest winds: Red flag, black centre, above red pennant.

AT NIGHT.—A red light, easterly winds. A white light above a red light will indicate westerly winds.

HURRICANE SIGNAL.—Two red flags, black centre.

This signal denotes the expected approach of a tropical hurricane; also an extremely severe storm, dangerous to navigation. A scout boy may get full information concerning the expected hurricane at any station of the Weather Bureau.

An interesting contrivance for determining the wind's direction is to make a weather-vane, having the vane swing on a long, movable rod. At the bottom of this rod have a cog-wheel fitting into another cog-wheel. This last one will be set on a rod which operates a hand on a dial like a clock face. Instead of the hours, the directions—north, south, east, and west—are printed on the face. The hand will point to the one from which direction the wind comes.

CLOUDS.—There are three chief kinds of clouds—*cirrus*, *cumulus*, *nimbus*. The *cirrus* clouds are the light, feathery ones that float high up on a clear day—the quality of cloud that forms a mackerel sky.

The *cumulus* are the more solid clouds, that drift like great white islands midway between the horizon and zenith —the beautiful, fleecy masses that one sees on a pleasant summer day.

Digitized by Google

The *nimbus* are the great towering masses piled up in the west at sunset; or the black, threatening "thunderheads," flashing lightning and muttering in their long gray beards.

It will pay any scout boy to lie on his back for an hour and watch the drifting shapes in the sky, and observe their change of form, their marvellous colors, their directions, and general actions. Some clouds drift leisurely across a blue sky, pure, serene, trailing their lovely garments like grand princesses. Tiny, little white bits go by in groups lazily to and fro, and the little children call them sheep. Then there are the scattered *cirrus* that flame far up the western sky after the sunset color has faded and the sun dipped over the horizon. The huge, piled-up *nimbus* at sunset rimmed with gold we are all familiar with.

OLD WEATHER PROVERBS

Rain before seven, clear before eleven.

Between eleven and two
You can tell what the weather is going to do.

Fog in the morning, bright sunny day.

Sun drawing water, sure sign of rain.

Sudden heat brings thunder.

Three days' rain will empty almost any sky.

When the dew is on the grass
Rain will never come to pass.

If the sun goes down cloudy Friday,
Sure of a clear Sunday.

Digitized by Google

If it clears off during the night, it will rain shortly again.

If it rains and the sun is shining at the same time, the devil is whipping his wife, and it will surely rain to-morrow.

When the grass is dry at night,
Look for rain before the light.
When grass is dry at morning light,
Look for rain before the night.

A sailor's version of closing and opening of clouds is:

An opening and a shetting
Is a sure sign of wetting.

Still another version is:

It's lighting up to see the rain.

Mackerel sky and mares' tails
Make lofty ships carry small sails.

A deep-blue sky is usually followed by a storm.

Red sky at morning, the sailor takes warning;
Red sky at night is the sailor's delight.

Evening red and morning gray
Sends the traveller on his way.
Evening gray and morning red
Sends the traveller home to bed.

If the rooster crows standing on a fence or high place, it will clear; if on the ground, it doesn't count.

Swallows flying *low* are a sign of rain; *high*, of clearing weather.

A circle round the moon means "storm." As many stars as are in the circle, so many days before it will rain.

If a crescent moon is so tipped that it will not spill water it is a sign of dry weather. If it is so tipped that it will spill out water, it is a sign of wet weather.

Digitized by Google

A storm that comes against the wind is always a thunder-storm.

East wind brings rain.
West wind brings clear, bright, cool weather.
North wind brings cold.
South wind brings heat.

When the wind is in the east,
It's good for neither man nor beast.
When the wind is in the north,
The old folks should not venture forth.
When the wind is in the south,
It blows the bait in the fish's mouth.
When the wind is in the west,
It is of all the winds the best.

Familiar Birds

The scout boy may also train his powers of observation and his woodcraft instincts by studying birds and carrying this study as far as possible.

The following table of information regarding habits and season of residence will serve as a starting-point, and any good bird book will furnish a wider knowledge. This list is not complete. The boy is expected to finish it:

Birds of the Air Catching Food as They Fly.—King-bird, barn-swallow, nighthawk, humming-bird.

Birds Most Frequently Seen in the Upper Half of Trees.—Scarlet tanager, Baltimore oriole, chickadee, robin, bluejay.

Birds of Low Tree or the Lower Part of Trees.—Sparrows, thrushes, goldfinches, wrens, bluebirds, mocking-birds.

Digitized by Google

BIRDS OF TREE-TRUNKS.—Woodpecker, warbler, night-hawk.

BIRDS THAT CHOOSE CONSPICUOUS PERCHES.—Crow, king-fisher, eagle.

BIRDS OF GARDEN AND ORCHARD.—Bluebird, robin, English song-sparrow, wren.

BIRDS OF THE WOODS.—Thrushes, woodpeckers, wrens.

BIRDS SEEN FEEDING ON THE GROUND.—Robin, chewink, sparrow, crow, blackbird.

The scout boy may also find birds of the meadow and field, of the roadside and fences, of marshes and boggy meadows, of thickets found near salt water, near streams and ponds, and birds that sing on the wing. In this latter class will be found bobolinks, meadow-larks, song-sparrows, kingbirds. It will also be interesting to make a list of the bird residents at different seasons of the year. There are the permanent residents, the winter residents and visitors, summer residents (between April and November), spring and autumn migrants only. The dates of migration are always of interest.

One of the earliest signs of spring is the geese flying north. Boys should watch for that. They always fly V-shaped, with one arm of the V longer than the other. The leader is constantly changing as he becomes tired. Before an early winter the birds will be seen leaving much sooner than when there is a late fall. I have seen the small birds who live along the sea-coast all disappear just before a big storm and return after it is over. When fair weather is due sea-gulls always fly high, and with bad weather imminent they always fly low. This may be observed around any

Digitized by Google

seaport town. A bird whose nest is built on the ground or in the low bushes will always run, calling, away from the nest on the approach of a stranger.

Flowers and Trees

A summer of camp life should add greatly to a boy's knowledge of flowers and trees. In popular books, flowers are classified in three different ways—by their color, or by their dwelling-place or habitat, or according to their months of blossoming.[1]

In the case of trees, the leaves and the bark and the habitat may be taken as guides. In the case of evergreen trees, as distinguished from the deciduous or trees whose leaves fall off in the autumn, the character of the needles or cones should be carefully observed. Whenever it is possible, good popular books on flowers, trees,[2] familiar animal life, and fishes should be included in the camp outfit.

[1] Harper's *Guide to Wild Flowers*, by Mrs. Caroline K. Creevey, provides all these means of identification.

[2] Mr. Romeyn Beck Hough's *Trees of Eastern North America* is an admirable book, although somewhat bulky and expensive.

Digitized by Google

Chapter XXVI

HINTS FOR CAMPERS AND SCOUTS

How to Keep Food Warm or Cold.—Food may be kept warm or cold by an improvised heater or ice-box. Take an ordinary wooden box the size desired, tack burlap, oil-cloth, or heavy sheeting around the inside and over the bottom. Stuff with hay. If ice is placed in one corner of this, or if it is put near a stream, it will keep butter or milk very cold.

If, on the other hand, it is desired to keep the food warm while absent from camp a considerable time, place the box in a sheltered place where the wind will not blow over it, and place the food, steaming hot and covered over, carefully near one of its sides. There should be a top for this improvised box, which may or may not have a straw padding.

Fresh or Stale Eggs.—To determine whether or not an egg is fresh drop it into a bowl of cold water. If fresh, it will sink to the bottom; if stale, it will come to the top.

To Steady Pails.—A scout boy often carries two pails through the woods over rough paths and is annoyed by the pails knocking against his legs. This may be prevented by taking a willow switch, making it into a hoop and laying the

Digitized by Google

hoop on top of the pails. The boy standing inside will thus be saved this annoyance.

POST-CARDS IN THE WOODS.—The scout boy away from home may make post-cards or stationery. A piece of birch bark makes a very good post-card, and if stamped with a penny stamp may be sent anywhere in the United States as readily as the regular post-card.

If he desires ink and has none at hand, slice the top from an onion, dip the pen in the onion juice and write with it. It will be necessary to apply heat to the surface of this card in order to make it legible.

TO MEASURE A TREE'S HEIGHT.—Nail three sticks together so that they will form a triangle, one side having an angle of forty-five degrees. Have the stick that forms the upright side of the triangle twice as long as the other two. Carry this out some distance from the foot of the tree, and, lying down on the ground, arrange the triangle so that the perpendicular side will face the tree. Take a sight over the long side of the triangle, moving its base backward or forward until the top of the tree falls into line with the sight taken. The distance from the triangle to the base of the tree will be approximately its height. If the distance between the ground and the triangle is added it will be more accurate.

WARNING OF THE APPROACH OF AN ENEMY.—Every one knows that the ground will transmit sound better than the air. This may be readily seen by placing the ear to a railroad track. An approaching train may be heard several miles away. To determine if men or horses are approaching, open two blades of a knife (straight out), stick one blade into the ground and place the ear to the other. The vibra-

Digitized by Google

tions will warn the scout boy of approaching men or horses. This may also be done by placing the ear directly to the ground. Choose a hard spot of earth for this. A file or screwdriver may be stuck into the earth for this purpose.

In the woods listen for the cracking of dry branches, the snapping of twigs, or the unusual rustling of leaves.

Do not forget that the enemy may be concealed in the trees above. The dropping of nuts or bark, or bending and swaying of branches will give warning.

Crows flying about excitedly and calling always indicate the presence of something unusual.

In coming out of the woods into a field or clearing where crows are feeding there will be found one who is acting as outpost while the rest feed. If you suspect the presence of an enemy observe closely this crow outpost. He will warn the rest by flying toward them and calling loudly. They will all fly directly *away* from the danger. If a scout party suspects that their own camp is watched, circle and make a smoke away from camp.

The habits of birds and squirrels may be observed in parks as a start in woodcraft. The excited chattering of squirrels tells of the presence of some one.

In tracking in Indian or war games, if a spot where mud-turtles are sunning themselves is *dry*, no one has passed within twenty minutes. A wet place an inch or so high on a rock will, on a clear day, indicate that some one has been wading, or a boat or canoe has just passed. A clear stream suddenly becoming muddy will denote something farther up-stream.

TRAIL MARKS.—In going through the woods a scout boy,

Digitized by Google

in a general way, may leave directions for his friends to follow by tying knots in weeds and bending them to the right or to the left, or directly ahead, according to the direction in which he desires his friends to follow. There are several instances in history where women and children left such directions; after having been captured by the Indians, they broke or bent twigs or foliage pointing in the direction in which they were going.

WAVY LINES in earth or sand drawn with a stick were used by the Indians as a sign of water.

FOOTPRINTS.—A man in *walking* puts the whole flat of his foot on the ground. Each track will be a little less than a yard. In *running*, the toes are dug more deeply into the ground and a little dirt is kicked up. The tracks are more than a yard apart. A man wearing moccasins strides farther than one wearing shoes.

If a scout attempts to deceive you by walking backward it can generally be determined by noticing if the stride is shorter, the toes turned in, and the heels deeply impressed.

If animals are moving rapidly, their toes are dug more deeply into the ground, they kick up the dirt, and their paces are longer. In walking, a horse makes two pairs of hoofprints—the near (left) hindfoot being placed in front of the near forefoot (right), and the off (right) forefoot similarly just behind the print of the off hindfoot.

In a trot or walk the tracks are similar, but the stride is longer. At a canter the two front tracks are wide apart and the two hind tracks are together. The hindfeet of a horse are generally longer and narrower than the forefeet.

TRACKING OR TRAILING.—It is important to know how

Digitized by Google

long since the tracks were made. This may be determined to a very large extent by the freshness of the earth, whether or not it has been rained upon, the number of seeds or leaves that have blown over it, and whether the trodden grass is dry or withered from having been destroyed a considerable time. This following and studying of tracks is something that one may study daily at home, observing a cat's tracks in snow or human and animal tracks in mud and dust. It is very interesting to observe this.

Information may be gained from the ashes of fires—whether they are still warm or cold; from the scraps showing the kind of food the people were eating (men in a hurry would not stop to cook or bake bread or biscuits); the way in which canned goods have been opened will denote haste or leisure; the manner of constructing a fireplace might also determine a party's haste or leisure.

In tracking a difficult trail, do it against the sun if possible, so that the slightest dent in the ground will show a shadow. If you lose a track always immediately retrace your steps. Don't attempt to find it either to the left or to the right.

A scout boy can practise tracking by observing for several days running the difference in a track one day old, two days old, and three days old, made in the same place. It is good practice to watch each day the hoof-prints of the grocer's or postman's horse and see if at last they can be distinguished from other horses. This may be practised with dogs. Try a lame one.

In throwing a pursuer off the trail one may climb a tree, walk out on a limb and drop off. Walking in the bed of

Digitized by Google

streams (either dry or with water in them), walking on logs, being careful not to disturb the bark, are also useful methods. If walking in a country road, leave a broad, plainly marked track in the dust, then a confused crisscross running track, backward and forward, for fifteen or twenty feet; then suddenly jump as far as possible to the grass at one side, enter the woods, retrace your steps for five or six hundred yards, emerge to the roadway again and make another track; then, suddenly repeating the manœuvre of leaping to one side, retrace your steps until you hear the pursuing party. Keep under cover and they will pass you, and, knowing their manœuvres, you may shortly escape.

Odd Notes

A scout boy may dry his wet boots after a day's trailing by pouring heated oats into them.

Fish will live longer if carried in a sack rather than on a string.

Feed angleworms with the white of a hard-boiled egg. This will give them a fine pink color and will prolong their life. Always dig for worms after a heavy rain. They then come to the surface.

Thirst may be allayed by carrying a non-absorbing pebble in the mouth. A piece of onion is still better. In tramping, drink little, but gargle the throat and mouth frequently. Do not eat snow.

To attract fish to a certain vicinity suspend fly-blown meats over the hole and let the live maggots drop continually in the water.

Digitized by Google

Midge flies are fine for trout-fishing in the early spring. Don't have your hooks or flies too large. Always choose the smaller one.

If you are not successful, look over your tackle. Something may be wrong. Don't always blame the fish.

Cast near the edge of weeds, lily pads, etc., for bass and pickerel.

You will always find fish in the most difficult place to get at. Go to a little trouble and be convinced.

You can catch frogs at night by turning a bright light on them. They will not jump away, and you can pick them up in your hand.

Never let the fish observe you; always hide in some way.

If you get wet keep moving and you will be all right.

Trout generally refuse to bite in cold weather; and during hot weather the best time is in the early morning or evening.

Hit fish between the eyes to kill them.

A drop of sweet cicely, anise, or asafœtida on your bait will attract the fish.

If you wish to make a cot in camp, before you leave have your tent-maker take a piece of canvas $3\frac{1}{2} \times 6\frac{1}{4}$ feet, and have him sew a double-stitched hem about six inches wide on the long sides. When you get to camp drive four forked sticks into the ground. Brace them well. Then cut two three-inch saplings about a foot longer than the canvas. Trim these and run through the loops. Rest the ends in the forks, and you will have a cot that will be much better than most cots sold at the present time.

Another way: Use a gunny-sack by cutting out the closed ends and slip it over the poles. If you do not have an oppor-

Digitized by Google

tunity to cut the forked stakes, lay the poles over two logs. Cut notches in the logs to keep the canvas tight. These plans are sometimes useful in a wet ground. The poncho placed over the cot thus improvised is a decided help. Remember when sleeping on cots to always put as much *under* as *over* one.

TALKING WITHOUT WORDS.—It is often very important and interesting for scout boys to signal. They may do so

BOY SCOUTS SIGNALLING

from their home roofs by wigwagging flags, the code of which is very easy to learn, or by a prearranged series of signals.

In the field, signs may be made during daylight by the Indian smoke signals. This may be accomplished by building a smudge fire and waving over it a blanket, the number

Digitized by Google

of puffs going up having been previously arranged for certain meanings.

The code may be something as follows: One smoke column, "Come here." Two smoke columns, "I am lost. Help!" Three smoke columns, "We are going forward." Four smoke columns, "We are returning to camp."

Signals may he made at night by bonfires, rockets, or waving lanterns. It is very interesting to practise this from hilltops around the camp.

On Being Lost in the Woods.—All men who have had any experience in the woods agree that the first thing to do when lost is to stop at once, sit down, and calmly think it over. They also agree that *any one* may become lost. It is pretty sure that a boy who is going to do much camping in the woods will at some time or other become confused and lost.

There is hardly ever any real danger unless the boy gets frightened and loses his "nerve" completely. Keep cool and try to recall all the landmarks and points that have been passed. Think at what hour camp was left and how steadily travel has been pursued, and about how much distance has been covered. Recall, if possible, any cross-trails, streams, bodies of water, and kinds of trees. Have the fir and pine trees changed to hard wood? Has the virgin growth disappeared and a burnt-over strip or second growth of low bushes and alders taken its place? Has a clearing been passed, a camp or old logging road, and when and where and how long ago did it occur? Were the sun's shadows long or short when the camp was left? Was it shining in your face during most of the tramp? On your

Digitized by Google

right or left side? Consider calmly all these things and then see if some clearer idea cannot be arrived at. Having thought over all points that may throw any light on the situation, climb a tree on some elevation and look carefully all about.

These are some ways of determining directions and holding a course in the woods that may be found interesting and helpful. Of course the general east and west may be determined by the sun on bright days.

To Determine Directions by a Watch.—Point the hour hand at the sun and half-way between that and twelve o'clock will be south. This is reversed below the equator.

In a general way, north may be determined by the thicker bark on that side of a tree. The boughs are thicker on the south side, but this is only general and not very reliable, particularly when a boy is confused or lost. The same is true of the fact that moss grows thicker on the north side of rocks. (This may also vary in regions where wind blows usually from other directions.)

On a cloudy day, to find the direction of the sun, hold a knife-blade perpendicular to a piece of paper or a watch, and a faint shadow will be cast.

A stream is usually a great help in finding the way out of the woods, for of course it must bring the scout boy out—somewhere! If a stream-bed is dry its direction can be determined by carefully examining sticks and dry grass to denote which way they point.

Confusion may often result in following a *winding* stream or on coming to the forks of a river.

I remember being lost in Canada and getting a great

Digitized by Google

scare. It was about two hundred miles north of the St. Lawrence and on the headwaters of the Rouge River. I had left the Indians, and was crossing the country, following the river going south. A wide swamp intervened and I made a detour to get around it, and in floundering about finally became confused, but, struggling on, arrived at the river banks, only to find the river flowing in the *opposite* direction from that in which it had been running when I left it. I at once thought that instead of travelling toward Montreal and home I was going toward Hudson Bay and starvation. What actually had occurred was that I had cut through from one side of a V-shaped bend to another. I left the river running down one side of the V and came upon it again running *up* the other side. So, beware of wandering and *stick* to the stream.

If, when following up any moderately sized river, forks are arrived at, the main stream can be determined by watching closely the currents or by following each one for a short distance.

On most New England mountains and in the Adirondacks cairns are built of rocks above the tree line. They are constructed by placing two or more rocks on top of each other. In many places scratches on the rocks will be the guide.

Blazes are scars cut in trees for marking a way. They are always cut high enough to be above the snow line.

Mr. Horace Kephart tells us that he has noticed in three-quarters of the cases, "The little feathery top, the topmost little branch, of a towering pine or hemlock points toward the rising sun—that is to say, a little south of east."

The bush and old trees are thickest on the north side,

Digitized by Google

and the rings as seen in transverse sections of a tree are thickest on the north side almost invariably. This was tested by the New York State Forest Commission among the black spruce in the Adirondacks, and the following interesting table was presented after an examination of seven hundred trees:

North	471	South	1
Northeast	81	Southeast	0
East	106	West	7
		Southwest	6
Total north and east	658—94%	Northwest	8
		Total west and south	42—6%

If, however, the way out cannot be found, make plans to spend the night. Before it gets dark cut wood and kindling enough, make a fireplace, a wind-break, and prepare to settle down. The firing of two shots in the woods, or ~~two~~ columns of smoke, is always supposed to be a signal of distress. The smoke signals may be made by throwing green leaves or boughs on a brisk fire. Build them far enough apart so that they will not mingle and be confused. After making the signals keep a good fire and wait for assistance. If a horse or a good dog is with you, leave it to them. They will always come out.

Of course a compass is a great help, and will eventually bring one out if used intelligently. The way to do this is to fix on some distant point and get its direction as exactly as possible. Then follow this line until this point is reached, when another point must be selected. The reason for this is that in the woods a winding tortuous course must be taken, and what the sailors term "leeway" is made.

Digitized by Google

That is, while going in a general direction, merely following the compass, no direct line will be adhered to unless some point is picked out by the new scout boy to be "steered" for. In handling a compass always get a good one and rest it level.

At night the north may be determined by following the north or pole star. This may be located by remembering that the two stars forming the front of the bowl of the dipper point due north.

To sum up what to do when lost or confused:

Stop at once. Think over calmly all the points that can be recalled as having been passed.

Climb a tree or elevation and see if any of these can be observed.

Recall the means of determining and following any given direction as laid down here.

Remember that the waterways will bring one out, or a good dog or horse will always find a way home. •

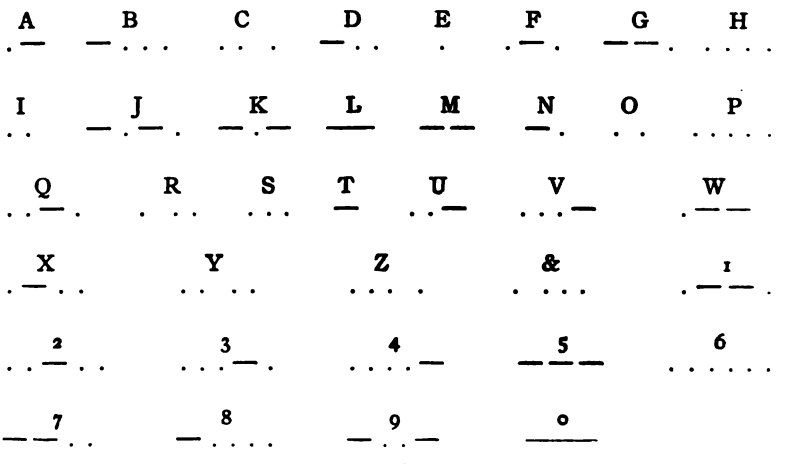
Digitized by Google

Chapter XXVII

SIGNALLING AND SIGN LANGUAGE

THE familiar Morse code of dots and dashes has been adapted to many other purposes than those of the telegraph. It is used in heliographing—long and short flashes from a mirror. It has been utilized for signalling with smoke and fire, for taps on any hard surface, and for communication by locomotive whistles, a method used by Thomas A Edison when a boy, according to a story told by Mr. J. H. Adams, in his *Electricity Book for Boys*.

The complete Morse alphabet is as follows:



Digitized by Google

SIGNALLING AND SIGN LANGUAGE

The sign language of our North American Indians is one of endless variety and infinite interest. It includes signalling with fires and smoke, and by waving blankets or robes, and by riding horses in various directions and at various paces. Here are some examples of talking with the hands taken from Colonel Mallery's exhaustive study.[1] The names of tribes using these gestures and of some students of the subject who have made reports are added:

Above.—In the sense of one thing above another. Bring the open left hand, back up, in front of and a little to the left of the body. Hold the open right hand several inches above the left hand (the distance depending upon the degree of height to be represented). The fingers of the right hand are extended in a direction perpendicular to that of the fingers of the left hand.

In the sense of above the earth. Point toward the zenith with the index finger of the closed right hand.

Ache.—Bring the extended finger of the closed right hand over and parallel to the afflicted portion of the body; then move the hand sharply in several different directions to symbolize the darting pains.

Bad.—Close the fingers of the right hand, resting the tips against the thumb, then throw the hand downward and outward toward the right to arm's-length, and spring open the fingers. (Dakota, Ponka, Pani.)

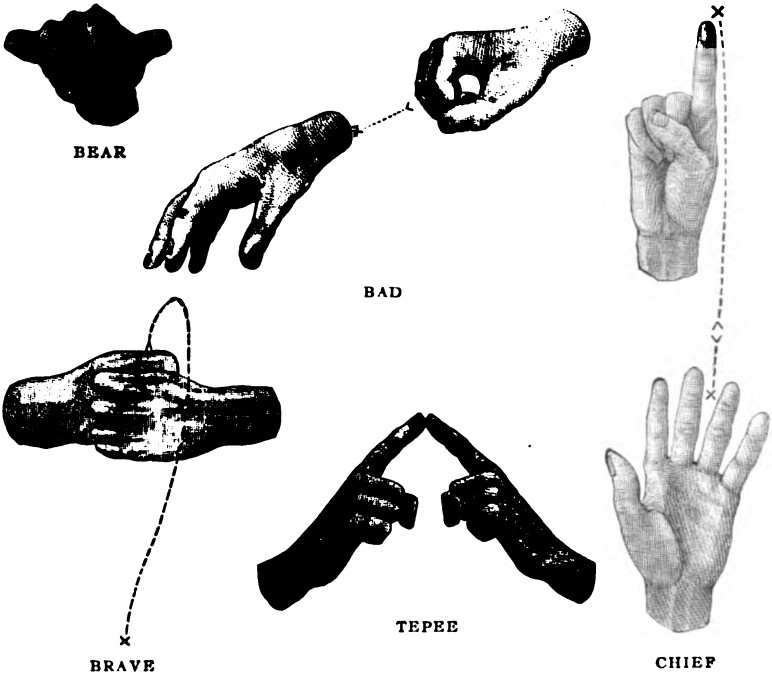
Bear.—Hold the closed right hand at the height of the elbow before the right side, palm downward, extend and curve the thumb and little finger so that their tips are nearly directed toward one another before the knuckles of the closed fingers, then push the hand forward several times. "Paw and long claws." (Kaiowa, Comanche, Apache, Wichita.)

Brave.—Close the fists, place the left near the breast, and move the right over the left toward the left side. (Wied.)

Chief.—Place the extended index, pointing upward, at some distance before the right shoulder, then place the left hand, with

[1] *Sign Language Among North American Indians*, by Col. Garrick Mallery, Report of the Bureau of Ethnology, 1879–80.

Digitized by Google



fingers and thumb extended and separated, just back of the index; then in passing the index upward as high as the head, draw the left hand downward a short distance. Superior to others. (Absaroka, Arikara.)

Good.—The hand held horizontally, back upward, describes with the arm a horizontal curve outward. (Long.)

House or *Lodge.*—The hand half open and the forefinger extended and separated; then raise the hand upward and give it a half turn, as if screwing something. (Dunbar.)

Log House.—Partly fold the hands, the fingers extended in imitation of the corner of an ordinary log house. (Arapaho.)

Tepee.—Place the tips of the fingers of both hands together in front of the breast, with the wrists some distance apart. (Dakota.)

Horse.—Place the extended and separated index and second

Digitized by Google

fingers of the right hand astraddle of the extended forefinger of the left.

Kill.—The hands are held with the edge upward, and the right hand strikes the other transversely, as in the act of chopping. This sign seems to be more particularly applicable to convey the idea of death produced by a blow of the tomahawk or war-club. (Long.)

No, Not.—The hand held up before the face, with the palm outward and vibrated to and fro. (Dunbar.)

Nothing.—Motion of rubbing out. (Macgowan.)

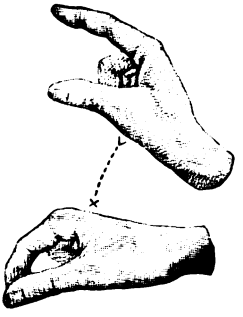
Little or nothing is signified by passing one hand over the other. (Creel, Ojibwa.)

Large or *Many.*—The flat of the right hand patting the back of the left hand, which is repeated in proportion to the greater or lesser quantity. (Dunbar.)

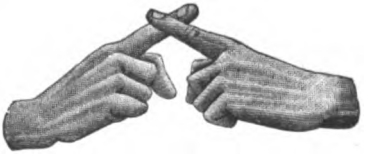
Question.—The palm of the hand upward and carried circularly outward, and depressed. (Dunbar.)

The hand held up with the thumb near the face, and the palm

SOLDIER



YES



TRADE

HORSE

Digitized by Google

directed toward the person of whom the inquiry is made; then rotated upon the wrist two or three times edgewise, to denote uncertainty. (Long, Comanche, Wichita.)

Soldier, American.—The upright nearly closed hands, thumbs against the middle of the forefingers, being in front of the body, with their thumbs near together, palms forward, separate them about two feet horizontally on the same line. All in a line in front. (Cheyenne.)

Place the radial sides of the clenched hands together before the chest, then draw them horizontally apart. "All in a line." (Dakota, Arikara.)

Trade, Barter, Exchange.—Strike the back of the extended index at a right angle against the radial side of the extended forefinger of the left hand. (Dakota.)

Yes.—Hold the naturally closed hand before the right side of the breast or shoulder, leaving the index and thumb extended; then throw the hand downward, bringing the index against the inner side of the thumb. (Dakota.)

Here are a few explanations of sign language which are based upon the comprehensive studies of W. P. Clark,[1] who has included in his book many interesting comparisons with the sign language of deaf mutes:

Bird.—Conception: wings. Bring the open hands, palms outward, in front of the shoulders. Move them simultaneously to the front and downward; repeat motion several times, rapidly for small birds, and slowly for large ones.

Trail.—Hold the extended hands, backs downward, in front of body. The hands are in the same horizontal plane, lower edges a few inches apart. Move the right hand to the rear a few inches, at the same time carrying the left hand to front. Then bring left to rear and right to front and repeat. Suggestion of tepee-poles dragging, or a wagon.

Wolf.—Hold the right hand, palm outward, near right shoulder, first and second fingers extended, separated, and pointing upward, others and thumb closed. Move the hand several inches to front

[1] *The Indian Sign Language*, by W. P. Clark, U. S. A. Philadelphia, L. R. Hamersley & Co., 1885.

Digitized by Google

and slightly upward, turning the hand a little, so that extended fingers point to front and upward.

Scout (*To*).—Make sign for *Wolf*. Bring right hand, back upward, well in front of body at height of mouth. The first and second fingers are extended, separated, and point to the front, the other fingers and thumb being closed. Mostly by wrist action, turn the hand so that these fingers will point to the right, to the left, and downward.

To return to civilized sign language, one form of military signalling by waving flags, which is familiarly called wigwagging, receives much attention among the Boy Scouts of England. Wigwagging may be practised with the aid of the alphabet and instructions given in the signal corps manual of the United States Army. At sea signalling is done with different arrangements of parti-colored flags or semaphores in the daytime, and with colored electric lights at night.

Digitized by Google

Digitized by Google

Part VI

MOUNTAINEERING AS A SPORT

Digitized by Google

Digitized by Google

Chapter XXVIII

MOUNTAINEERING AS A SPORT

AMONG outdoor sports that are steadily gaining in popularity must be included mountain-climbing. It offers health, vigor, mental stimulus, and a high order of enjoyment for both body and mind. There are few things which drive the clouds from a wearied mind as does a far-extending view from a mountain-peak, and there are few forms of exercise which develop the physical powers as quickly and beneficially as the effort of climbing in pure, light air.

It is not necessary to seek very lofty or difficult summits, or to travel in Mexico or to the Alps, or even to our own Rockies, in order to enjoy this exhilarating sport, which strengthens the muscles, steadies the nerves, and clears the brain. The White Mountains, the Alleghanies, the Catskills, and the Adirondacks contain hundreds of lofty outlooks which can only be attained with a proper amount of stimulating effort, and which present views of the lower world so broad and unfamiliar that they have the effect of an inspiration.

In the White Mountains

I remember an unpretentious peak on the southern edge of the White Mountains, unknown to fame except among the

Digitized by Google

farmers and villagers at its feet, which, with a single exception, was the first mountain I ever climbed. When I reached its summit, only some two thousand feet above sea-level, there opened before my astonished and fascinated eyes a vision of tumbled mountains on one side, and green plains glittering with winding lakes on the other—a view so apparently illimitable and so wonderful in the diversity and strangeness of its elements that I seemed to have dropped upon another world.

I doubt if such a variety of pleasing recollections crowds into the mind of the devotee of any other form of sport as that which illumines the memory of the amateur mountain-climber when he sits by his winter fire and cons over his adventures. Even yet the remembrance of my first climb comes back to me like a scene out of *Swiss Family Robinson*. It was an event in my early life, and probably has been influential in later years in leading me to the top of celebrated mountains in distant lands. I was fourteen years old, and the peak that I assailed, and on which my mind had been longingly fixed ever since a quaint old hunter had fired my imagination with stories of its incredible steepness and height, was situated near the southern border of the Adirondack region.

An Adirondack Adventure

Attended by one companion, and armed with a pocket-pistol, and a rifle borrowed from a descendant of the celebrated trapper Nick Stoner—a rifle that carried an egg-shaped bullet, the like of which I have never seen since—I started one day for the peak, which was locally known as the "Pin-

Digitized by Google

nacle." It rose in the outskirts of the wilderness, and was so remote from the nearest settlement that it was nearly nightfall when my companion and I arrived at a pioneer's barn by the foot of the mountain, and unhitching our weary horse found him a comfortable lodging for the night.

Then we struck into the woods, notwithstanding the gathering darkness, and in a few minutes I realized, with a thrill of excitement, that the slopes of the magic peak which had so mastered my fancy were actually under my feet and rapidly lifting me skyward, as I stumbled over the broken rocks, helping myself up with the aid of trees and undergrowth. My companion was much older than I, but the climbing soon became so stiff that he had all he could do to pull himself up without aiding me, and I struggled desperately in the deepening gloom, now on my knees, now on all-fours, and occasionally swinging by my arms from roots or branches projecting over the edge of a miniature precipice. My face was scratched with invisible brambles, my hands were cut by the sharp edges of rocks, and the jagged points of broken pine and hemlock limbs made havoc with my clothing. How we managed to get the heavy rifle up I don't remember. I am certain *I* didn't carry it.

It was pitch-dark long before we reached the summit. Stunted evergreen-trees covered the top of the mountain, but we found a comparatively open place in an angle of rocks on one side, a few yards down, and there we made a bed of pine twigs, and, collecting a heap of dead branches, soon had a roaring fire at our feet. On one side lay the wilderness, a great dark gulf beneath us, where nothing could be clearly distinguished, and which seemed to stretch

Digitized by Google

away without boundaries. From among its trees the cries of wild animals came up to our ears. In the opposite direction, at a distance of a few miles, the open country began, and we could distinguish far away the glimmering lights of a settlement. In an hour the moon rose and shed a faint illumination over the scene. With the pistol grasped in my hand and the rifle lying between us, we fell asleep, and I never slept more soundly.

In the morning the wilderness was like a green ocean surrounding our island peak. We had brought our breakfast in our pockets, and after it was disposed of we started to descend the mountain on another side, attracted by a lake that we had noticed shining in the light of the moon. But unwittingly we had chosen the worst possible place for descent. In a few minutes we were involved among perpendicular cliffs and headlong pitches of the mountainside, which seemed to our inexperience truly frightful. At length we came upon the dizzy brow of a precipice which was too smooth to afford any foothold. The cliffs towering behind seemed to forbid return, and we searched anxiously for a place where descent could be made. Fortune directed us to a dead pine which had fallen against the face of the precipice and remained leaning there. Down this we went, tearing our clothes and our skin, but glad of even this chance to escape from our difficulty.

Near the foot of the mountain we came upon unmistakable traces of the presence of bears, and kept on the *qui vive* for dangerous enemies, but none appeared. Another danger, however, soon manifested itself in the evident fact that we had lost our way. Involved in a "windfall," we

Digitized by Google

struggled desperately with the tangled mass of broken branches and upturned roots, until, after spending the greater part of the forenoon in advancing perhaps half a mile, we got our bearings, after the manner of Natty Bumpo, by climbing a tree and taking a look around. From our observing tree a vista fortunately opened in the direction of the lake. But when we approached the latter we found that it was surrounded with swamps, which prevented us from reaching the shore, and we had to turn in another direction. This time, without knowing it, we were steering the right way, and when we came upon a hunters' or loggers' trail all our difficulties blended into the single one of tramping for a few hours without food on a path that was wearisomely long, but which led out of the wilderness.

I have recalled this youthful adventure as an example which shows how near at hand lie the fields in which the amateur may learn at least some of the elements of mountaineering in its simpler forms. But the difficulties, approaching in some instances toward peril, that attended my first climb, need not necessarily be faced. The ascent of Mount Washington, Mount Adams, Mount Monroe, Mount Jefferson, Mount Lafayette, and other well-known peaks in New Hampshire, although somewhat trying on unpractised muscles, presents no danger and no real difficulty. On the other hand, it is inspiring in a high degree, and when Mount Washington is enveloped in driving clouds, or lashed by a gale spitting hail and snow, it often presents views which, for grandeur and dramatic effect, are not much inferior to the most famous spectacles of the high Alps.

Digitized by Google

For climbs like those that the mountains of the Atlantic seaboard afford, of course, no such elaborate outfits and no such preliminary training as Alpine climbing calls for are needed. Stout shoes studded with iron nails, a strong iron-shod staff, strong but not cumbrous clothing, and a pack containing a small supply of food are the principal necessaries. The increased breathing-power and the elasticity of muscle come of themselves after a little practice. Indeed, in this respect the mountains possess an almost magical stimulus. The first time I climbed Mount Adams I was almost "tuckered out," and a companion with me was made sick by his exertions. Within a week we ascended Mount Adams again, and then tramped over the top of the entire Presidential range, without the slightest discomfort, but, on the contrary, with that sense of physical power which is popularly said to "make a new man" of one.

Mount Tacoma or Rainier

There is one of our Western mountains whose vast snow-clad form rises with a peculiar fascination before my mind's eye as I write—Mount Tacoma (Mount Rainier), standing at the head of Puget Sound, and looking down upon the city that bears its name. Many years ago I started one day from the city of Tacoma to visit an enormous cavity in the side of the mountain, containing Crater Lake. Colonel F. G. Plummer and two other gentlemen from Tacoma accompanied me. The expedition really began at a mining settlement near the base of the mountain. There we laid in a stock of provisions, and hired saddle-horses and a

Digitized by Google

pack-pony. Early the next morning we started out on a mountain trail toward the peak. Within five minutes from the start the immense forest that clothes all the lower slopes of Mount Tacoma had swallowed us up. All day we rode, gradually ascending, and stopping at noon to make a fire to boil coffee and fry bacon.

MOUNT RAINIER

The first experience that smacked of adventure was the fording of the Carbon River, swollen with recent rains. Here I learned to appreciate the surefootedness and intelligence of the gray pony that I rode. The yellow water was

Digitized by Google

rushing angrily between its banks, and of course the bottom could not be seen. But we knew it was rough with boulders, for in places large rocks rose nearly to the surface, and round these the water whirled with dizzying speed. Two prospectors, encamped on the bank of the stream, watched our attempt with breathless interest. They were prudently awaiting the subsidence of the river.

The moment we entered the water my little gray plunged up to her throat. If I had thought of the possibility of keeping my feet dry I instantly abandoned the idea now. The water swirled around the saddle-flaps, and I expected every moment to find my horse down and myself swept away by the angry current. But the pony, with ears pricked, seemed to feel her way over the rough bottom, turning aside when her knees struck an invisible rock, bracing her body against the push of the rushing water, and raising herself and me after every stumble in a manner that was truly wonderful. Once down, I believe there would not have been one chance in a hundred for us to reach shore. And apparently the pony knew the danger just as well as I did.

When we emerged dripping on the opposite bank I could not help uttering an exultant shout. I could sympathize then with the feelings of the cowboy who, with a good horse beneath him and perils left behind, cannot restrain the tendency to "let himself out" with a yell.

The horses of the other members of the party had a slight advantage in their greater weight and height, but they did not make a more creditable crossing than that of the little gray.

Digitized by Google

In a Wonderful Forest

At nightfall we encamped beside an ice-cold rivulet, under the roof of the grandest forest I have ever seen. Our camp-fire roared near the foot of a Douglas spruce, whose trunk was eight or ten feet thick, and which rose to a height of at least two hundred feet. We had ridden the entire day through an unbroken forest of such trees, many of which were still larger than this specimen, and their canopy of leaves, high above our heads—the first branches appearing about one hundred feet above the ground—together with the innumerable great trunks, towering straight as marble columns, produced an indescribable sense of spaciousness.

In the middle of the night a sprinkling in my face awoke me. I found the fire sputtering, and a fine rain falling through the thick branches overhead. Our horses, which had been turned loose, were standing in a circle around the camp, wistfully poking their noses toward the light and warmth of the fire. I awoke the others, and we piled more wood on the embers, fanned up the flames, and stretched the canvas of a small tent across short poles to keep the rain from our faces. For the rest we trusted the fire.

When day broke it was raining fast. We made a hasty breakfast, saddled our horses, and quickly found ourselves ascending a main spur of the mountain. The same immense trees yet surrounded us. And now I had reason to admire still more the agility and intelligence of my pony. Occasionally we got into a tangle of fallen timber, where progress with horses seemed impossible. The first time this occurred the little gray astonished me by leaping, with me on her

Digitized by Google

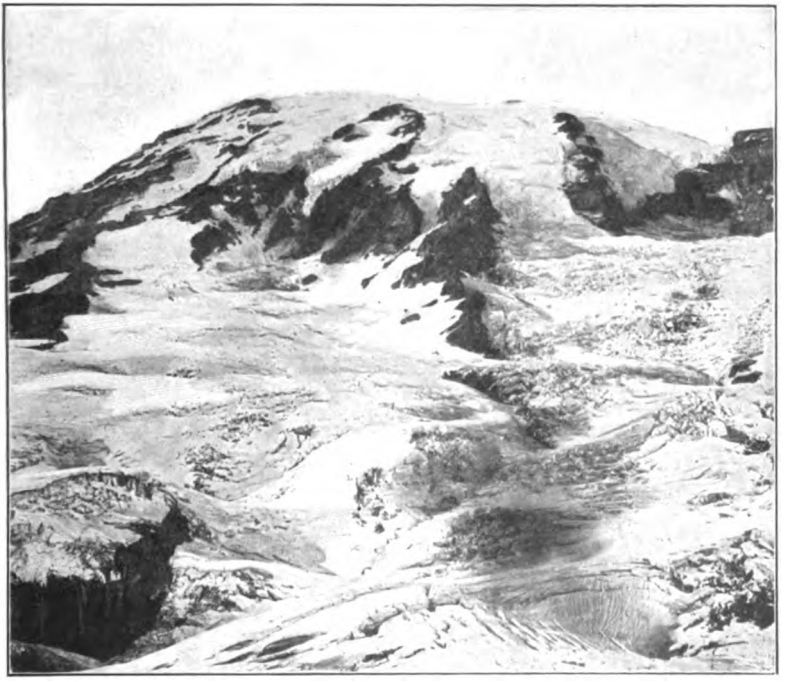
back, over the obstructions, until she had extricated herself from the maze. There seemed to be nothing that she could not do. She carried me up slopes as steep as a barn roof, and so close along the verge of precipices that my outer stirrup appeared to project over the edge. I had learned to place the utmost confidence in her, and gave her her head in all difficult places.

Midsummer Snowbanks

When we arrived near Crater Lake we found ourselves travelling over enormous snowbanks, although it was the beginning of July. We ascended on the back of the cliffs overhanging the lake to an elevation of some six thousand feet, and fried our bacon at a fire built on the snow, in which we soon melted a large hole. Here my pony performed a feat which threw her preceding exploits into the shade. In order to reach a point near the rim of the crater-like depression in which the lake lay it was necessary to cross a broad slope of hard snow which, judged by the eye, lay at an angle of at least forty-five degrees. The others dismounted and carefully led their horses across, but the gray no sooner approached the slope than, without waiting for me to dismount, she sprang upon it and began to cross. Colonel Plummer shouted a warning, but it seemed too late to stop, and safer now to go on. The pony's shapely little hoofs, without shoes, cut perhaps an inch into the hard white surface and gave her a grip which she lost only once. When my friends saw her slip on that occasion they expected to behold us both, horse and man, shoot to the bot-

Digitized by Google

tom of the slope, hundreds of feet below. But the quick-witted animal caught another hold before her flank touched the snow, and then, with the utmost *sang froid*, she carried me across the remainder of the incline without an accident,



MISQUALLY GLACIER, MOUNT RAINIER

and accepted a lump of sugar from our small store as ample reward for her dexterity.

On our return down the mountain it began to rain again, and we were soon wet to the skin. Regaining our camp

Digitized by Google

at nightfall, we found it necessary to split open the largest dead timber we could find in order to obtain wood dry enough to light a fire. Our tent was too light effectually to keep off the rain, but we succeeded in making a roaring blaze in the hollow left by the roots of an upturned giant tree, and placing the open end of the tent next to the fire, and as close as prudence allowed, we dried our boots, wrapped ourselves in blankets, and, lying down amid the wet, slept soundly. Anywhere else I should have expected to come out of such an experience with a well-developed case of lumbago or rheumatism. But in the morning not one of us had a stiff joint or a touch of pain.

The Health-giving Mountains

And this illustrates another peculiarity of the mountains which adds largely to their charm. You don't "catch cold" among them as you do in the heavy, surcharged air of the lowlands. Evaporation goes on more quickly in light air, and the blood is invigorated to such a degree that the body more effectually resists a chill. In fact, all ordinary physical ills seem to be more easily borne and overcome on the mountains. I was once caught in a snow hurricane near the summit of Mont Blanc, and was compelled to pass thirty-six hours in a rough refuge-hut nearly 15,000 feet above sea-level, in the midst of a tempest which, in its wildest moments, almost seemed capable of stripping the mountain bare to its ribs. My shoes were so thoroughly soaked that when I pulled them off the leather in a little while appeared to freeze solid. I was wearied nearly to exhaustion with

Digitized by Google

battling against the storm and seeking a refuge through the blinding, driving snow, which was as fine as bird-shot, and as hard. We had no fire, and, after a few hours, no food; every element for the foundation of a lifelong infirmity seemed to be present; and yet when the storm cleared, and we glissaded down the great white slopes to Chamonix,

AN ALPINE PILGRIMS' PROGRESS

I immediately entered upon a period of bodily health and vigor.

Yet, as I remarked at the beginning, it is by no means necessary to travel far, or to attack lofty and formidable peaks, or to undergo great fatigue and the perils of snow and ice in order to enjoy many of the delights of mountaineering. A mountain that lifts its head a mile above sea-level affords a much finer view than do summits three or four miles high. From the greater heights all detail is lost, and, of necessity, their immediate surroundings are savage,

Digitized by Google

and lacking the charm and interest which arise from the marks of human occupation. In my own experience, while the precipices of the Matterhorn, the ice-cliffs of Mont Blanc, the immense crater of Etna looked into at night, with weird shapes of fire appearing to crawl groaning and hissing over its bottom, and the sharp pinnacle of the peak of Veleta, in the Sierra Nevada of Spain, with its distant glimpses of the crimson towers of the Alhambra on one side and the blue expanse of the Mediterranean on the other, are treasures of the memory more precious than gold—yet not less pleasing is the recollection of the more easily attained but quite as stimulant joys that are offered by the near-by mountains of New York and New England.

Here is a world of pleasure and health lying open to any one of sturdy heart who chooses to march to its conquest with a strong stick and a stout pair of shoes.

Digitized by Google

Part VII

OUTDOOR LIFE FOR GIRLS

Digitized by Google

Digitized by Google

Chapter XX

CAMPING FOR GIRLS

IF camping is good for boys, why not for girls? Why should not they, too, inherit the sound wholesomeness of out-of-door life? That they do, and that they are benefited perhaps even more than their less restricted brothers, is one of the distinct advances in the last dozen years of scientific interest in the welfare of our young people.

There is, of course, at the outset an objection to face: that girls are not physically adapted for "roughing it," and that the very ones most in need of the out-of-door freedom are those whose strength is not sufficient for some of the tasks, some of the hardships involved. This is most certainly true, and it is to meet this condition that the many private camps for girls have been organized during the last few years. In these camps the rough work is done by servants and experienced guides, the girls are shielded from stress of weather, and their days are filled with wholesome activities, so planned as gradually to build up both the strength and the skill of the young campers; so that by the end of the season they are not only fitted more thoroughly to enjoy the out-of-doors, but armed against emergencies, made self-reliant and resourceful, and brought into sym-

Digitized by Google

pathy with that healthful simplicity to which too many of our modern young girls are strangers. What all of this means—how it is actually accomplished—may perhaps most easily be explained by a description of the life in a typical girls' camp, drawn from the actual experience of the writer.

A Day's Program

The day ordinarily begins at six-forty-five with reveille, for time is marked by bugle-calls. From under the khaki tent-sides, raised so that the cold pure air may sweep unobstructed across the cots of the sleepers, girls tumble out with a joyous promptness that would do credit to a military school. Pajama-clad figures scamper here and there closing the tents, disappear, and in five minutes again emerge in bathing-suits, to assemble on the "campus," as the tent-surrounded clearing is called, for the morning setting-up drill, conducted by an experienced teacher of physical training. After five minutes of snappy exercise there is a race for the bathing-beach—for most successful camps are near some body of water—where there is a swift cold plunge for the stronger girls, and more gentle ablutions from the dock for those for whom the cold shock is not considered wise. Facilities for bathing are, of course, in every tent, but these are generally scorned for the superior attractions of the lake. A half hour is given to the morning toilet, and the breakfast call is answered by a group of rosy, hungry girls, in the comfortable and picturesque camp costume—bloomers and "middy" blouse of khaki, brown stockings, and tennis shoes.

Digitized by Google

Breakfast is eaten in the bungalow or on its wide veranda. This more or less picturesque building faces the tent-circle, and contains the dining-room, serving-room, and kitchen, together with the office of the director of the camp. The dining-room is large and airy, surrounded on three sides by screened windows, and fitted with a large stone fireplace, well-filled bookshelves, and a piano, so that between meals, when the folding mission tables are removed, it makes a delightful living-room and a cozy shelter during any protracted spells of wet weather. The wide veranda extends around three sides of the building and is partly screened in for an out-of-door dining-room.

Work and Play

After breakfast a half-hour is given for tent-work. Each girl is expected to make her own bed and keep in perfect order her quarter of the tent—for three girls and one counsellor ordinarily occupy each tent. Small steamer-trunks are kept under the cots, and for immediate necessities there is a swinging-board shelf suspended from the ridge-pole. There is a friendly rivalry in the matter of neatness, for tent-work is followed by military inspection which penetrates into every corner, and each Saturday the camp banner is publicly awarded to the tent having the best record for the past week.

Tent-work is followed by a gathering at the bungalow for the morning "sing." A counsellor in charge of music leads at the piano, while any of the girls who play mandolins, guitars, violins, or the like, make up the camp orchestra.

Digitized by Google

There are many original camp songs and calls, contributed by members with a gift for making jingles, and these are practised with an enthusiasm that reflects the camp spirit.

Singing over, the girls scatter for the morning occupations. A tennis tournament or basket-ball practice may draw them to the courts, or all may gather for a class in handicrafts held on the lake shore or on the breezy veranda. Basketry, brass or leather work, stencilling, embroidery, photography, are some of the branches offered, and each girl may choose what most appeals to her. The unfortunate ones who must make up school or college work in the summer disappear into the grove with the counsellors in charge of tutoring, or girls who are learning to row or paddle may go on the lake for a lesson at this time. Perhaps a fishing party is organized, or a group of girls with a counsellor start for a two or three hour horseback ride. At eleven-thirty the bugle sounds the assembly, and that means bathing-hour. The beach is patrolled by counsellors in boats, and there is always an instructor in correct form in swimming. Every one learns to swim before the season's end, for beside the incentive of fun in water sports for those who are expert, use of the canoes is forbidden to any one who cannot make at least three hundred yards in case of emergency.

The Rest-hour

After the noon dinner there follows "rest-hour," a peaceful period when, with writing materials, book, or merely rug and pillow, every one goes off by herself for a little breath of quietness. Here, one of the very few camp rules is rigidly

Digitized by Google

SETTING-UP DRILL IN A GIRLS' CAMP

Digitized by Google

enforced—the quiet of "rest-hour" must be observed. Its ending, signalized by a bugle-call, means almost absolute freedom. On a cool, breezy day a paper-chase may be organized, leading through the neighboring woods and fields; or there may be a tramp to a hilltop not too far distant to make return by twilight a possibility. In the latter event, each girl carries her own share of the supper, and a committee is appointed to attend to the all-important and wholly delightful task of preparing the picnic meal. If an out-of-door play is in preparation, as is usually true at some time during the summer, this is the time for rehearsal. The tennis courts are always in demand, and occasionally there is a field-day, with various contests including both skill and fun.

Taps

The supper bugle blows at six, and the short evening passes all too quickly. Sunset on the lake, a camp-fire with songs and stories, dancing and games in the bungalow, or hide-and-seek in the elusive shadows of the grove, fill the interval before bedtime. At nine, taps sound, the lanterns in the tents are blown out, and absolute quiet reigns. This "early-to-bed" rule may at first seem a hardship on moonlight summer nights, but after an active day in the open, she who does not fall asleep before she has had time to grumble is rarely to be found.

Variety of Amusements

This program is one that is carried out daily, with slight variations, of course, in a considerable number of good camps

Digitized by Google

every summer nowadays. Of course, different camps have special features, varying with the location. In some, mainly those in the mountain regions, tramping is the major interest, and almost every day means some new point visited. Others make a feature of coaching and horseback parties; still others rely on the water sports chiefly, and have camp crews, rowing and paddling contests, and the like. Those whose situations, while they may be as healthful, are less picturesque, depend on golf or tennis, basket-ball, hockey, or field sports, for the chief sources of interest and activity. But nearly all of the best camps combine the various occupations, and the ideal camps—of which there are a surprisingly large number—offer a range of activities wide enough to meet the needs alike of the energetic and the anæmic girl, of the girl who needs an outlet for her vitality, and the girl whose interest in the out-of-doors must be won, and whose strength gradually made equal to the demands of the active life. And it is this variety of choice which gives the organized camp so large a superiority over the family camp, where, because the scale of living is smaller and the individual responsibility greater, the bare necessities of living in an unaccustomed fashion are too apt to share with lounging the hours of daylight.

Camping Trips

But the day described is typical of only one part of camp life—that part spent actually in camp. There are always, in addition, a number of trips away from camp, short and easy at first, but growing with the strength of the girls in

Digitized by Google

length and difficulty, trips in which the girls have a taste of the delights of really "roughing it," of cooking their own meals over a camp-fire, and, for a night or two, sleeping rolled in blankets out under the stars. On such trips as this the girls are not expected, as boys would be, to carry their own blanket rolls and provisions. These go in wagons or boats, as the case may be, and are at hand when needed.

Outfit

By way of illustration, an account of one of the annual trips taken by the members of a well-known girls' camp, may be of interest. Its objective point is the top of a mountain whose foot is some forty miles from the camp, and five days are taken for the trip. Both counsellors and girls wear the camp uniform of khaki "middy" blouse and bloomers, with the addition of short khaki skirts, sombreros, and thick-soled, high tramping-boots. In addition to this, each has a pack containing a sweater, bathing-suit, towel, comb, tooth-brush, extra stockings, and warm army blanket, compactly rolled into a surprisingly small bundle and strapped into a rubber poncho which is slit in the centre so that it may be slipped on over the head in case of rain. The provision baskets contain baked beans, potted meat, bacon, coffee, sugar, condensed milk, and such things as cannot be bought of farmers along the way. Eggs, milk, bread, and butter, and generally fruit, are provided by farmers with whom arrangements have previously been made; in this way the food is fresh, and the amount necessarily carried much less. In the pails are packed aluminum drinking-cups

Digitized by Google

and plates, and one knife, fork, and spoon apiece, and a few utensils for camp cookery. These, with a couple of lanterns and an axe, complete the outfit. Supplies and packs are stowed under the seats of big canopy-top wagons, which

AT LAST WE REACHED THE SUMMIT

also carry the girls in relays so that undue fatigue is guarded against. Twenty miles a day is the required distance, and since the country is ideal, this gives ample time for a good noon rest. The guides care for the horses, collect firewood, carry water, and the like, while girls and counsellors are divided into committees who, in rotation, cook and "wash up." At night a camp is made, gypsy-fashion, in the woods,

Digitized by Google

or permission is gained to sleep in a friendly farmer's field or orchard. On more than one occasion a loft full of new-mown hay has been generously offered, but ordinarily the delight of sleeping in the open is considered the crowning event of the day. And how one does sleep!

The third day is devoted to climbing the mountain. The horses and wagons are now left behind and the lunch divided into equal parts so that each girl carries her share. The climb takes about five hours, so that, with an early start and a couple of hours for luncheon and "the view," the party reaches its camp at the foot by twilight. The home-camp is reached in time for a celebration supper on the afternoon of the fifth day.

This is the longest land trip taken at this particular camp, because experience has shown it to be the longest which can be taken without fatigue by the average girl. In a few camps where tramping is a special feature, longer walks and more ambitious climbs are boasted of, but these should be, and generally are, restricted to the exceptionally strong girls. Overdoing is possible because of the eager interest of the young campers, but in well-conducted camps the experience of the counsellors, together with the advice of the resident physician or trained nurse, is successful in restricting the activities to the strength of the, perhaps, too-ambitious individual.

How to Choose a Camp

"In well-conducted camps": there is an important phrase which will, perhaps, bear a word or two of interpretation. "How shall I choose a camp for my daughter?" is a question

Digitized by Google

naturally to be asked by one not familiar with the subject. The important points are, in the opinion of the writer, three: the situation of the camp, its size, and last, but by no means least, the make-up of the camp council, as the group of directors and their assistants is generally called.

In the first place, a camp for girls should be sufficiently far from any town, however small, sufficiently removed from the beaten track of tourists, to insure privacy and freedom from uninvited guests; though there should, of course, be a town within easy reach by boat or wagon in case of emergency. It is obviously important that no girl shall leave camp, however safe the neighborhood, without a counsellor as chaperon, and accordingly there should be enough ground in the camp proper to give fairly wide freedom for wandering about within its boundaries; for no group of people, however congenial, can live restfully in too-restricted quarters. There ought to be, if not immediately at hand, at least within short walking distance, a lake or river suitable for swimming. This adds inestimably to the pleasure and comfort of the summer, for porcelain tubs and tent life do not go hand in hand! But under no ordinary conditions should this body of water be expected to supply drinking-water for the camp. Definite provisions should be made for this, the use of a spring or deep well whose water has been tested being the safest plan.

By the size of the camp, the number of members rather than the extent of territory was meant, though, as has been said, the latter is a feature worth consideration. Membership in a camp of restricted numbers is apt to prove more beneficial than in a camp of larger proportions, for at least

Digitized by Google

one very excellent reason. Unless a large camp is conducted with rather extraordinary care, the weaker members will not receive sufficient consideration. Not that any one should be pampered! It is the escape from exactly that sort of thing which in many instances makes camp life valuable. But, as it was granted in the beginning, girls—average girls—have not at the outset the physical endurance for too strenuous a life, though they have often a nervous force which makes them eager to pursue any new interest and blinds them to their own limitations. They must be studied individually and guided with considerable care, and it is easy to see how, in a group of say fifty girls, all enthusiastic, the spirit of one might carry her beyond her strength, the overactivity proving quite as harmful as no activity at all.

Counsellors

And this leads naturally to the third point—the members of the camp council, for not only its character, but its number is important. There should be at least an average of one counsellor to every three or four girls, to act, not as policeman, but as jolly companion as well as tactful adviser. Young girls are easily led and quick to appreciate genuine and unselfish interest. There are, of course, some commercially organized camps—mere money-making schemes—in which the welfare of the girls is of secondary importance, but, fortunately, these are few and easily detected by a thorough investigation, not only of references, but of former patrons. The men and women who undertake this work are usually college bred, and in very many cases trained

Digitized by Google

MISTRESS OF ROD AND NET

Digitized by Google

teachers who, through experience, have a sympathetic understanding of young people. And here must not be forgotten one member of the camp, who, though not a counsellor, is important to everybody's health and happiness—the cook! Above all, he must be really skilful, for camp fare is simple at best, but if it is well and daintily served no one will tire of its necessary plainness.

It has been taken for granted that a resident physician or a trained nurse of experience is a member of every camp council for precaution's sake, though the wholesomeness of the life generally reduces their duties to the application of collodion to the occasional scratch, or of a cooling lotion to a severe case of sunburn! The long day in the open, the long cool night's refreshing sleep, plenty of plain, wholesome food, and the eager interest for each new day's adventure—surely here in itself is a prescription beyond any doctor's art.

Advantages of the Life

Consider for a moment the difference between such a summer and that spent by the average young girl at the average summer hotel. Instead of nightly dances, exciting and exhausting; instead of constant teas, late elaborate dinners, and confections at all hours; instead of the nerve-stretching whirl of social life, a half-dozen toilets to be made in a day, and either the unnatural responsibility of creating her own position, or the necessary but ungirlish caution in the meeting and judging of strangers which leads to false standards—early hours and regular nourishing meals; interests centred in the out-of-doors, not of veranda flirtations, but of games

Digitized by Google

and nature study; simplicity and perfect comfort of dress; and finally, the unselfishness generated by that intangible but delightful and "catching" thing called "camp spirit"—the spirit of community interest, fair play, obedience to the laws of consideration for others and of playing the game for the game's sake—good sportsmanship. It is worth considering, and that, more and more, parents are beginning to appreciate this fact the ever-increasing number of successful camps proves.

The life is within the grasp of almost any girl, even of moderate means, for the expenses of the camping season are generally to be estimated within two hundred dollars, a sum easily spent on the frocks and pretty fripperies required for the months at a good summer resort. The camp outfit, on the other hand, is extremely simple; the khaki uniform of blouse, bloomers, and short skirt, white skirts and blouses for Sundays or the occasional "dress affairs," shade hat, sweater, rain-coat or poncho, tennis and walking shoes, a bathing-suit, warm bath-robe, and three changes of plain underwear, are absolutely all the requirements, unless the girl plans to ride, when a khaki divided skirt must be added. Usually each girl is required to take her own sheets, pillow-cases, towels, two army blankets, and a rubber blanket for use in sleeping out-of-doors. Hammocks, kodaks, fishing-rods, racquets, steamer rugs, musical instruments, are of course welcome though unnecessary additions. And the expenditure for this out-of-door summer buys—what? Clear eyes, strong and flexible muscles, keen interests, keen sympathies, self-reliance, and contentment—the qualities that go to make a normal, healthy, lovable girl.

Digitized by Google

Chapter XXX

A CARAVAN TRIP IN ENGLAND

OUR caravan was a gaudy wagon of bright yellow picked out in blue and red, with tiny green shutters at the little windows. Moreover, the front door was decorated by a letter-box as well as a brass knocker, so we felt very superior to all other caravan-dwellers.

Prince, our big bay horse, stood patiently between the shafts while his owner explained to us the intricacies of a cart-horse's harness. We were taking no man, in spite of our friends' warnings that we should come to grief, for there were few who could view with equanimity the spectacle of four girls setting out alone on a caravan trip of a fortnight through England.

Starting from Bath

When, on a certain bright Wednesday in August, we left Bath, the shade of Jane Austen, which pervades the quaint, quiet old city, must have stood aghast at the sight of our lumbering vehicle swaying through the narrow streets. Certainly the inhabitants did. The small boys followed us in the hope of a show, and pointed to our little yellow dog, and our big hoops slung on behind, as proof that we were travelling performers.

Digitized by Google

By courtesy of the *Travel Magazine*

PRINCE, THE CARAVAN, THE GIRLS AND ROBERT, THEIR PROTECTOR

Digitized by Google

We put on a chain-horse to climb the hills by which Bath is surrounded. For five miles the road wound up till we came at last to the top of the Cotswolds and saw Somerset and Gloucestershire lying at our feet. There we dismissed the boy with the extra horse; Prince was unharnessed and given a nose-bag and a pail of water which we fetched from the nearest farm. Then a rug was spread in the shade, our blue and red mugs were filled with cider, and we fell to on bread and cheese in the silence that comes from keen hunger. Later, with every muscle relaxed, we drowsed in the noon-day heat, resting easily on the warm grass.

All the afternoon we marched, with occasional halts to investigate some interesting bits of antiquity. Once it was an old oak mentioned as a boundary-mark in the reign of King John, and now grown so huge that it is a miniature wood. At six o'clock we came to Old Sodbury, fourteen miles from Bath, and there we found an hospitable farmer who readily permitted us to camp in his field. Then began the real work of the day.

Making Camp

First, Prince was unharnessed and fed, after which he grazed at will through the night. Then the tent hoops were untied, the bath-tubs lifted from the rack and unpacked, the fire made, the tables and chairs set up and prepared for supper, and the food cooked. The bath-tent was rigged up, and the tubs pumped full of water. For this tent, two light, wooden hoops, seven feet in diameter, were furnished with rings to which was hooked a straight piece of chintz about eight feet high; a rope was then tied to a nail on

Digitized by Google

the outside of the van, wound around one side of the upper hoop, fastened to the nearest tree or hedge and brought back to the van in the same way, so that it formed a triangle on which the tent hung securely. The lower hoop rested lightly on the ground, and in case of wind could be steadied with a few stones. On the inside of the curtain were large pockets to accommodate towels, etc., and in case of rain a tarpaulin could be drawn across the top. This tent could be set up in ten minutes.

The dusk fell rapidly and our camp-fire glowed picturesquely under a big tree. While the dishes were washed and everything put away for the night, the bath-tubs were heating on the fire, and then came what was, perhaps, the most delightful experience of the day. To sluice off in clean, hot water all the dust and weariness of the march, with the night wind stirring the branches that formed our roof, with the short, thick grass for a carpet and the moon for a candle, is an experience to be remembered. Our lighted van looked wonderfully cozy when at last we were ready to turn in. Two slept on a broad shelf below, one on a ledge above, and the fourth spread her mattress on the floor and lay like a knight in effigy with Robert at her feet. Beside the dog, we had for defence a spade and a stout bludgeon, which unfortunately we never had occasion to use.

Promptly at six the next morning we were up, and by eight had struck camp. No part of the day was more delightful than the setting-out in the cool of the morning on an unknown road with all our adventures before us.

That day we went through Berkeley and saw the castle, once a royal palace of Queen Elizabeth's and still filled with

Digitized by Google

treasures brought her from the four corners of the earth by that glorious band of adventurers whose names stand out in a golden cluster. Berkeley's chief interest lies in its association with the murdered King Edward II., and it was good to turn from the grim castle to the open road and travel gayly along to Cirencester, the ancient Roman camp. From there the road runs straight and broad to Gloucester—

> "For the Roman wrought as a Roman ought
> A street for the cars of kings."

The keen wind swept across the uplands, and we sheltered for lunch under a thatched haystack fifteen feet high. That night we camped in the fields of the "Golden Heart," and a new moon rose over the hill and poised above our valley.

Sunday we came to Gloucester—creating great excitement in the quiet streets—and went to afternoon service in the Cathedral. The next day we passed through Tewkesbury. As the girl in charge of the van walked by Prince's head through High Street, she forgot her responsibilities, and the van crashed into a large glass lantern which overhung the road. A painful scene ensued, during which the culprit insisted that the sign had no business to be there, and that it was not worth more than a shilling, anyway. But gypsies have no rights, and public opinion extracted five shillings from the offender, who left Tewkesbury feeling that, doubtless, it had deserved all its misfortunes.

A Strenuous Life

Up to this time the weather had been fairly cool, but during the last three days of that week the thermometer

Digitized by Google

stood at 95° in the shade. Moreover, we were now in a hilly country, where it was often impossible to procure chain-horses. Up those hills we pushed the caravan—which weighed over a ton and a half—stopping every few yards to rest. One to each wheel was how we did it, all grasping the spokes firmly, and, at the word, with a great heave the wheels were started and we ran alongside pushing, stumbling, panting, choking in the dust, cracking the whip, and yelling encouragement to the horse till he stopped exhausted, when the block was slipped in place and we fell by the roadside laughing and gasping till the call "To your tents, O Israel!" brought us once more to our posts. With broad hats pulled over our eyes, and sleeves rolled over the elbow, we trudged along in the shadow of the van, three miles an hour up hill and down, with frequent stops at the inns, where a smiling landlord would bring us four great mugs of sparkling cider, which we would drink, sitting on our little shelf, while the country folk gazed at our van, and the automobiles whirled past filled with people who laughed and stared, and exclaimed "Gypsies!" as they flashed by. How we looked for those inns and how eagerly we inquired for them of every passer-by. The place for a public is at the top of a hill—we were all agreed on that; the next best place is at the foot—never should one stand on a level stretch where the van rolls easily along and the thirsty one must spring off, rush in, hastily drink something, and run after the van in a choking cloud of dust. Even our noonday halts were often curtailed in those days, since it is possible to march under a burning sun, while resting in it is out of the question. From ten to four the air vibrated with heat, and

Digitized by Google

Prince was white where his harness touched him, but as soon as the sun declined the air grew chill and damp, and by seven o'clock we were apt to shiver and pull on overcoats. The nights were nearly always cold, so that we were glad of rugs over our sleeping-bags, and it was frosty enough fetching water across the fields in the early morning.

Going through Worcestershire—and a lovely, though hilly, country we found it—what we called a steep climb the country folk called "a bit of a bank," for the speech varies in each county in a surprising way. "That don't belong to we; us hasn't no jug like she," said a Somerset farmer to us when the ownership of a pitcher was discussed. That same day we fell in with numberless tramps going to the hop-picking; dreadful-looking creatures, but harmless enough, passing us with a nod of fellowship.

When we had gone through the quaint market-town of Ledbury we found ourselves in Herefordshire where the hop-grinders stand out weirdly against the sky, and all the cows are red and white. The sheep were no more the small, black-faced variety we had seen when we started, but big, stolid creatures, following meekly the shepherd who walked at their head. In the north the men drive the sheep, chivying them with dog and stick, but in the soft southland they pace slowly in front of their flocks, leading them to pasture.

Sight-seeing

On Wednesday we reached Hereford, where we rowed up-stream after seeing the Cathedral, and revelled in the cool river banks after the dusty highways. The next day we

Digitized by Google

paid toll at Kyrle Bridge after leaving Ross, and went along the bank of the Wye, which runs between beautifully wooded hills. On Friday we reached Monmouth and, leaving Prince to rest in a field, took the train to Raglan, one of the finest ruins in England. It was here that Charles came with great secrecy one night to confer with the ancient Marquis, whose devotion to his family was unbounded. A magnificent stone staircase leads to his apartment, from which he could look on many miles of the fair country he had lost. The same day we visited Goodrich Castle, an exquisite little ruin dating from the time of the Conquest. It contains a veritable gem of a Norman window, and its buttery-hatch is almost unique in England.

Saturday dawned bright and hot. We were all rather tired after the hard week and the fierce heat, but we started in good time, knowing we should rest the next day.

After a wind down a long incline, it was pleasant to ride along the flat, shady road till Tintern Abbey came in sight. By then it was one o'clock and the sun was fierce. We dragged our things up a grassy slope above the Abbey, and rested in the shade till a constable informed us we were liable to arrest as vagrants and must move on. So we harnessed up and departed after a visit to what is perhaps the most beautiful abbey in England. Beyond Tintern there is a three-mile hill, and, as no chain-horse was procurable, we pushed the van till we were well tired. Fortunately the road was shaded, and the view below was enough to compensate us for much hard work. Across the valley rose magnificently timbered hills, while to the right, beyond rolling meadows, the Severn glistened like a blue

Digitized by Google

ribbon in the sunlight; and when we saw the Severn we cried aloud, as Xenophon's soldiers of old, that we had at last reached that which we had come so far to see.

Over the cruel hill, joyfully we climbed aboard, and lounged on the shelf as we ate a large, cool melon. At six we reached Chepstowe and stopped to see the Castle. On two sides it rises in a sheer wall from the river, and is remarkable for its great strength. The walls are of extraordinary thickness, so that one can well believe the story that Cromwell besieged it in vain until a girl, whose lover was among the Roundhead army, waved her kerchief from the weakest spot.

Rest in a Turnpike House

On through the town we went, down a terrible hill, where Prince's hoofs clattered on the cobbles and the van lurched like a ship at sea. When we reached the bridge at the end of the town we "held a council, standing beside the river-gate." No farm, they told us, was to be found for two miles; a long, steep hill rose before us and no chain-horse could be hired. The loafers on the bridge grinned as we halted despondently; it was nearly seven o'clock. Prince's head was drooping pitifully and we were all worn out. However, there was nothing to be done but to go on. We bent to the wheels and pushed wearily up the hill; the evening was misty, and the prospect of a late camp, with all the work to be done in the dark, was not encouraging. Breathless and footsore we stumbled on for half a mile, and then—around a bend in the hill—we saw our port. A little turnpike house stood at the corner, eloquent of comfort from

Digitized by Google

its vine-covered porch to its lighted windows, which shone cozily through the dusk. In the doorway sat a dear old lady, who looked with amazement on the dusty travellers and gave a ready assent to our request for the use of her field. She and her husband came to show us the way, and when we had squeezed through the gate we cheered for joy as we saw our resting-place. Behind a mighty hedge which screened us from the road the field rolled away over low hills, on one of which stood a tower used by Cromwell to grind his powder during the siege of Chepstowe. There were big, shady trees and convenient stones for the fire; there was a pile of firewood in one corner and, best of all, the pump was close at hand. What this meant can be appreciated by those who have been forced to camp sometimes a quarter of a mile from water. Joyfully we unharnessed, hurried through the work, and ate until the pans were empty. Before turning in we walked over the hill to see the tower in the moonlight and fancy the figure of the great Protector behind every shadow.

The next day we lay under the trees till the middle of the afternoon. Prince browsed happily in the long, thick grass in company with various ponies and donkeys, while Robert drove away all strange creatures with ostentatious valor, and stretched out in the shade to dream of rabbits in the hedge.

After Two Hundred Miles

On Monday we put the van on a railway-truck and crossed the Severn from Lidney to Berkeley. There we saw friends who greeted us with amazement at sight of our tanned faces

Digitized by Google

and tattered boots. We had covered over two hundred miles, and our outfit showed signs of wear. Tuesday we took the homeward road, and, after a march of twenty miles, stopped half-way down the hill for our last camp, the lights of Bath shining below.

So we returned safely after a fortnight which none of us will ever forget. It would fill a volume to tell of all the quaint sights we saw, of the winding roads that led to ever new and unexpected places, of the cool gardens we passed, where the hollyhocks leaned over the wall to look with lovely, laughing faces at the dusty wayfarers, and, above all, of the kindnesses shown us.

The cost of the expedition? Twenty dollars a week for horse and van, making ten dollars apiece for us for the fortnight. Then there was the food, some of which we took with us, but most of which we bought on the road, that came to eight or ten dollars apiece, so the fortnight's excursion cost us each about twenty dollars, and we thought it cheap at that. The real joy of the trip can be measured only by those who have taken the trail themselves, done their own work, planned their own route, and surmounted their own difficulties.

From Roman roads to cannon taken in a modern sea-fight, we had seen the history of England written clear in earth and stone and wood. One remembers the towns by name, but the best memories are of the shady inns where the women set out water for our thirsty little dog; of the burly carters we met as far north as Hereford, who hailed us as fellow-travellers from the south country; and of flaxen-haired children who flitted shyly behind the van in the dusk

Digitized by Google

and crept in like shadows to watch the camp-fire, bearing gifts from their mothers.

For all who love the Long Trail, who are not afraid of hard work and unknown paths, there is but one word—

"Send the road is clear before you when the old spring-fret comes o'er you,
And the Red Gods call for you."

Digitized by Google

Digitized by Google

INDEX

A B C of boats, 280, 281.
Adirondacks, camping in the, 8, 9.
Anchorage, 282.
Army kitchen, 79–81.
Army tent, second-hand, 49; drawbacks to, 61.
Artificial bait, 94, 106.

Baden - Powell, Sir, and Boy Scouts, 302, 311.
Bailer, boat, 102.
Bait, worms, 94, 95, 96, 98, 102, 103, 104; seine for live, 98–100; boat, 100, 101; for large fish, 102; frogs, 104; crabs, 104; dobsons, 104; grubs, 105; minnows, 105; crickets, 106; artificial, 106; darning-needles, 107.
Bait, bag, 94; net, 101.
Bass-fishing of the Delaware, 9.
Batter cakes, 222.
Beard, Dan, Boy Pioneers, 311, 313.
Beef, capsules, 209; frizzled, 223.
Beverages, 213.
Bill of fare, the, 209–227.
Birds, familiar, 326–328.
Biscuits, hot, 212.
Black bass, notes on, 173, 174.
Blanket-rolls, 261.
Blankets, rented, 165.
Bleeding, to control, 287; from nose, 289.
Boats, handling, 280–286; A B C of, 280, 281; masts and rigging, 282; anchorage, 282, 283; power, 284; camp yachts, 285; nautical schools, 285, 286.
Bones, fractured, 289; dislocated, 290; treatment, 290, 291.
Book of Camping and Woodcraft, The, Horace Kephart, 169, 170, 207.
Boys' camps, organized, 183–188; origin, 187; objects of, 187, 188; how to conduct, 189–208; trained directors, 189–193; sanitation, 193, 197; dietetics, 193; location, 194; surroundings, 195–197; privacy, 198; tents, 200–208.
Boy Scouts of England, 301–310; organizing, 301–302; oath, 303; law, 303; patrols and troops, 305; tests, 305–307; badges, 308–310; of America, 311 – 319; headquarters, 312–314; tests, 314–316; the guide, 316–319.
Bread, unleavened, 223.
Brook trout, notes on, 172.
Brush houses, 30–35; a "lean-to," 34, 35.
Burbot, the, notes on, 176, 177.
Burns, treatment, 289.

Camp, how to fit out, 65–74; bed of boughs, 65, 68; canvas cot, 65; folding-cot, 66, 67; hammocks, 67, 68; tables and benches, 68, 69, 70, 226; chairs, 69; equipment, 71; lockers and mess-kits, 71, 72; a carryall, 73, 74; fires, 75–81; simple range, 75; stone stove, 75, 76; army kitchen, 79–81; cooking, 81–86; sanitation, 228–233; policing, 232; a temporary, 244; stoves, 252, 253; yacht, 285.

Digitized by Google

Camp Fires in the Wilderness, C. W. Burt, 171 *n.*
Camp-site, choosing, 39, 40; personal outfit, 39, 40; camps on lakes, 41; river cruising, 44–46; cooking utensils, 46, 47; provision supply, 47, 48.
Camper's responsibility, 4; warnings for, 170, 171; information for, 171.
Camping, near home, 3–4; in Maine, 4, 6, 10, 168, 169, 170, 171; in Canada, 8, 10; in New York, 8, 9, 168, 169, 170, 171; West and South, 9, 10; equipment, 71; outfitters, 165, 166; bag, 166, 167; for girls, 367–381; a day's program, 368, 369; work and play, 369, 370; rest hour, 370, 371; taps, 372; amusements, 372, 373; trips, 373, 374; outfit, 374–376; how to choose a camp, 376–378; counsellors, 378–380; advantages of the life, 380–381.
Canned goods, 211, 212.
Canoe, how to use, 234–243; cost, 235; repairing, 237; to paddle, 237–239; equipment, 239; loading, 240, 241; rough water, 242, 243; carrying, 245.
Canoe trips, food for, 210.
Canopy, for camping-tent, 57, 58.
Caravan trip in England, 382–393; starting from Bath, 382; making camp, 384–386; strenuous life, 386–388; sight-seeing, 388–393.
"Carron Oil" for burns, 289.
Carry-all, a, 73, 74.
Casting line or leader, 93.
Cecil, Lord Edward, and Boy Scouts, 302.
Citronella, oil of, for insects, 169, 170.
Clark, W. P., sign language, 346.
Clouds, varieties, 321, 323, 324.
Cooking, utensils, 46, 47; bill of fare, 209–227; pointers, 214, 215; practical hints, 225–227; arrangement of dishes, 248.
Cooks, cleanliness, 230.
Cot, of boughs, 65, 68; canvas, 65; folding, 66, 67.
Crabs as bait, 104.
Crickets as bait, 106.
Cruising, river, 44–46.

DARNING-NEEDLES as bait, 107.
Dishes, wooden, 264.
Ditty-bay, canvas, 40, 166, 167.
Dobsons as bait, 104.
Drowning, 291, 292; artificial respiration, 292.
Dudley, Sumner F., boys' camp, 187.
Dux-bax, 39, 166.

EEL-POT, how made, 110–113.
Eggs, cooking, 219, 223.
Electric shock, 295.
Elements of Navigation, W. J. Henderson, 280 *n.*

FAMILY camps, 184, 185.
Feet, care of, 258, 259.
Fires, forest, 170, 171; building, 248, 249, 250, 251; to light, 251.
Firewood, 246–250.
Fishing tackle, 89–97; rods, 91, 92; lines, 92; hooks, 92, 93; reels, 93; casting-line, 93; floats, 93, 101; sinkers, 93, 102; bait-bag, 93, 94; landing-net, 94; flies, 94; bait-net, 101; repairing, 143–164.
Fish, lines, 92; bait, 95, 96, 98, 102–107; general notes on, 172–180; cooking, 217–218.
Flapjacks, 212.
Flies, danger of, 231.
Floats, 93, 101.
Flowers, knowledge of, 328.
Fly-fishing, how to learn, 117–138; first position, 120–122; back cast, 122–125; forward cast, 125–128; the strike, 128–131; a cardinal principle, 131–133; the manipulation of the fly, 133–136; practical conclusion, 136–138.
Fly, for camping-tent, 57, 58.
Fly-rods and Fly-tackle, H. P. Wells, 91 *n.*

Digitized by Google

Forest fires, rules and regulations to prevent, 170, 171.
Forest, Fish, and Game Commission, warnings for campers, 170, 171.
Frogs as bait, 104.

GAMES, camp or scouting, 266–278; war game No. 1, 266; besieged city, 267; attacking party, 268; ensai-tai parties, 269; canoe tag, 270; capturing the flag, 272; Indian games 272; map-making, 272; feet and inches, 273; helpfulness and courtesy, 273; shooting the chute, 275, 276; seeing and remembering, 277; Up, Jenkins! 277; identification, 278; I spy, 279; wind ball, 279.
Grubs as bait, 105.
Guides, 6, 167–169.
Guide to Wild Flowers, Mrs. Caroline A. Creevey, 328 *n.*

HAM and eggs, 218.
Hammock, canvas, 67, 68.
Hard tack, 212.
Hash, 224.
Hatchets, 265.
Health hints, 296, 297.
Hiking, 254–265; distance to march, 255; clothing, 256–258; care of feet, 258, 259; blankets, 259, 260; canteen, 260; beds, 260; blanket-rolls, 261; cooking articles, 262; pointers, 262–265.
Hints for campers and scouts, 329–341.
Hooks, fish, 92, 93.
Hoop drop-net, how made, 114.
House-tent, a, 58–61.
Huts, tree, 18–30.

INDIAN, wigwam, 11–14; tepee, 12, 14–17; sign language, 343–347.
Insect pests, "dope" for, 169, 170.

KHAKI, military, 39, 166.
Kitchen, army, 79–81.

LAKES, camps on, 41, 42.
Lake trout, notes on, 172, 173.
Landing-net, 94.
Landsman, The, E. L. Roff, 280.
Latrines, 230, 231.
Leader or casting-line, 93.
Lines, fish, 92.
Lockers, 71, 72.

MAINE, camping in, 4, 6; trout-fishing in, 8.
Masts and rigging, 282.
Meat, cooked, 218.
Medical hints, 295, 296.
Mess-kits, 71, 72.
Minnows as bait, 105.
Morse alphabet, 312.
Mosquitoes, preparations for, 169, 170; transmitters of malaria, 197, 231; malarial and non-malarial, 198; nets, 264, 265.
Mountain-climbing, 351–364; White Mountains, 351; Adirondack adventure, 353–355; Mount Washington, 356; Mount Adams, 356; Mount Tacoma, 357–362.
Mush, 222.
Mushrooms, 221.
Muskallunge, notes on, 174, 175.

NAUTICAL schools, 285, 286.
Navigation Simplified, C. E. McArthur, 280 *n.*
Nessmuk, camping range, 75; knapsack, 167; tar-oil preparation for insect pests, 169, 170.
Net, a seine, 98–100.

OBSERVATION, power of, 320–322.
Ouananiche fishing, 8, 166; notes on, 177–180.
Outdoor Book for Boys, Harper's, 280*n.*
Outfit, personal, 39, 40, 166, 167.
Outfitters, camping, 165, 166.

PENNYROYAL, oil of, for insect pests, 169.
Personal outfit for campers, 39, 40.
Poisoning, 293, 294, 295.
Policing camp, 232.
Poncho, 259, 260, 261.

Digitized by Google

Pork and beans, 224.
Power boats, 284.
Proverbs, weather, 324–326.
Provision supply, 47, 48.
Pudding, corn-starch, 225.

REELS, 93.
Repairs, 143–164; first principles, 144–146; the invisible knot, 146–149.
Rods, fishing, 91, 92.

SANITATION, camp, 228–233.
Scap-net, how made, 113, 114.
Seton, Ernest Thompson, woodcraft Indians, 311.
Shooting the chute, 196, 275; plan of chute, 276.
Sibley tents, 207–208.
Signalling, 336, 337, 347.
Signal Service, United States, 322, 323.
Sign language, Indian, 343–347.
Sinkers, 93, 102.
Slapjacks, 222, 223.
Sleeping in barns, 262.
Sleep, loss of, 264.
Soups, 215–217.
Sprains, 291.
"Sterzo," beef capsules, 209.
Stove, camp, 75, 76, 252, 253; stone, 75, 76.
Sunstroke, 295.

TENT, second-hand army, 49, 61; of medium size, 49–54; a large camping, 54–57; flies and canopies, 57, 58, 202; a house, 58–61; the new, 61–64; placing, 200, 201; material, 202; to erect, 203; poles, 203, 204; floors, 204, 206; Sibley, 207, 208; hygiene, 233.
Tents, and tent-making, 49–64; rented, 165.
Tepee, Indian, 12; square, 14, 15; ridge-pole, 15–17; to erect, 206, 207.
Tourniquet, 287.
Trap, for small fish, 107–109; for water-turtle, 109.
Trees, and lightning, 199, 201; tree huts, 18–30; a low twin-tree hut, 18–24; a high twin-tree hut, 24–26; a single-tree hut, 28, 29; a low single-tree hut, 29, 30; knowledge of, 328; height of, 330.
Trees of Eastern North America, Romeyn Beck Hough, 328 *n.*
Trout-fishing, in New England States, 8; in Pike County, 9.

UNCONSCIOUSNESS, 293–295.
Unpacking, 245, 246.

VEGETABLES, cooking, 219–221.

WATER, drinking, 263, 264.
Weather, signals, 322, 323; vane, 323; proverbs, 324–326.
Weights and measures, table of, 226.
Welsh rarebit, 224.
Wigwagging, 347.
Wigwams, 11–14, 206, 207.
Wilderness camping, essentials, 48, 165; outfitting points, 165, 166; personal belongings, 166, 167; guides, 167; preparations for insect pests, 169, 170; warnings, 170, 171.
Woodcraft, Nessmuk, 169.
Worms, "scoured," 94; as bait, 95, 96, 98, 102, 103, 104.
Wounds, treating, 287, 288; to control bleeding, 287; dressing, 288, 289.

YEAST, 226.
Yellow perch, notes on, 175, 176.

THE END

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

RETURN TO the circulation desk of any
University of California Library
or to the
NORTHERN REGIONAL LIBRARY FACILITY
Bldg. 400, Richmond Field Station
University of California
Richmond, CA 94804-4698

ALL BOOKS MAY BE RECALLED AFTER 7 DAYS
2-month loans may be renewed by calling
(415) 642-6753
1-year loans may be recharged by bringing books
to NRLF
Renewals and recharges may be made 4 days
prior to due date

DUE AS STAMPED BELOW

MAR 27 1991
L4,H.
2-19-91

SENT ON ILL

APR 1 2009

U. C. BERKELEY

Digitized by Google

U C BERKELEY LIBRARIES
C051402032
YC 19987
THE UNIVERSITY OF CALIFORNIA LIBRARY
Digitized by Google

Digitized by Google